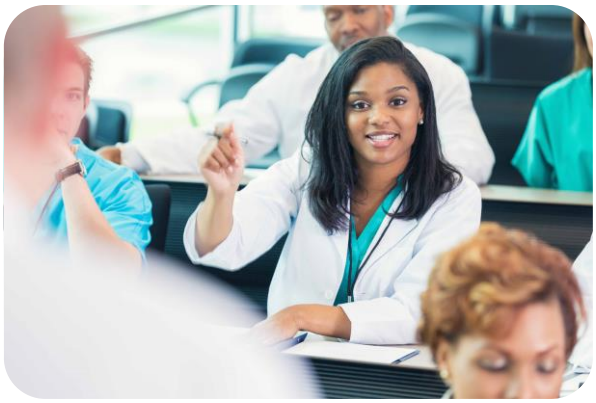

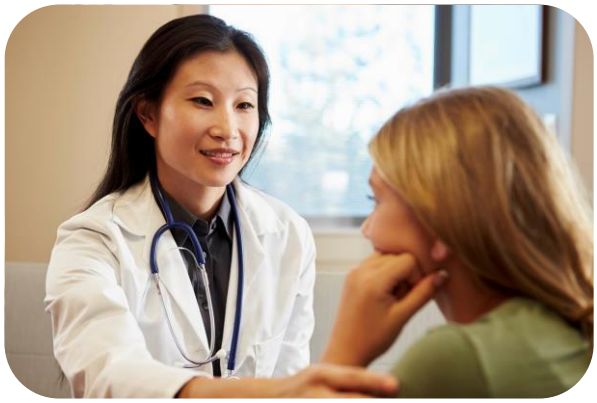

Workforce Development Council of Seattle-King County Health Careers for All Program: Implementation and Early Impact Report

Pathways for Advancing Careers and Education

OPRE Report No 2017-106

December 2017

PACE
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Pathways for Advancing Careers and Education (PACE)

OPRE Report No. 2017-106

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Overview

This report documents the implementation and early impacts of the Health Careers for All program, operated by the Workforce Development Council of Seattle-King County (WDC). Health Careers for All aimed to help low-income adults access and complete occupational training that can lead to increased employment and higher earnings. It is one of nine career pathways programs being evaluated under the Pathways for Advancing Careers and Education (PACE) study sponsored by the Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services.

The program had four key elements: (1) navigation and case management services; (2) tuition-free access to occupational training in healthcare fields, funded through "cohorts" (course packages open exclusively to participants and fully funded by the program) based at community and technical colleges or through Individual Training Accounts; (3) employment services; and (4) financial assistance during and immediately following training to help address barriers to program completion or employment. Health Careers for All was funded by the Health Profession Opportunity Grants (HPOG) Program from 2010 to 2015. HPOG, administered by ACF, was created to provide education and training to Temporary Assistance for Needy Families (TANF) recipients and other low-income individuals for occupations in the healthcare field that pay well and are expected to either experience labor shortages or be in high demand.

Using a rigorous research design, the study found that Health Careers for All increased the percentage of participants enrolling in healthcare-related training over an 18-month follow-up period. However, there was no impact overall on receipt of a credential or total hours of occupational training. Future reports will examine whether the program resulted in gains in employment and earnings.

Primary Research Questions

- Was the intervention implemented as designed?
- How did services received differ between study participants who could access the Health Careers for All program versus those who could not?
- What was the effect of access to Health Careers for All on short-term educational outcomes, specifically credentials earned and hours of occupational training received?

Purpose

The federal government projects that over the next decade, the fastest-growing occupations are in healthcare. This demand creates opportunities for entry-level employment and advancement to higher-skilled, higher-paying jobs. Almost all jobs in healthcare require some level of postsecondary education or training. But many low-income, low-skilled adults face considerable barriers to completing even short-term training for entry-level jobs. Many are "nontraditional" students—that is, older, often parents, lacking adequate basic academic skills, and with few economic resources.

Career pathways programs are designed to address these issues by providing well-articulated training and employment steps targeted to locally in-demand jobs, combined with a range of supports. Policymakers and practitioners have shown great interest in the career pathways approach; but to date, limited rigorous research is available on its effects on participants' educational and economic outcomes. To assess the effectiveness of a career pathways program such as Health Careers for All, the PACE evaluation uses an experimental design, randomly assigning participants to a "treatment" group who can access the program and a "control" group who cannot, then comparing their outcomes.

Key Findings & Highlights from the Implementation and Impact Studies

Key findings include:

- **Most Health Careers for All treatment group members participated in some type of education or training program**. The most commonly selected program was Nursing Assistant.
- **Program participants' first enrollment in healthcare training most commonly was at a private, non-degree granting school.** Completion rates of this first enrollment were higher for those who attended such schools compared with community or technical colleges. The higher completion rate may have been due to most students at private, non-degree granting schools taking a short-term Nursing Assistant program. Students at community colleges were more likely to enroll in the longer-term Licensed Practical Nurse programs.
- **The program achieved impacts on enrollment in training in a healthcare field, but there was no impact on receipt of a credential or total hours of occupational training.**
- **Health Careers for All did increase employment in a healthcare occupation, but so far there were no other impacts on employment.**

Methods

The Health Careers for All evaluation includes an implementation study that examines the design and operation of the program and enrolled students' participation patterns, and an impact study that uses an experimental design to measure differences in educational and employment outcomes.

From September 2012 to December 2014, more than 650 program applicants were randomly assigned to either the treatment or the control group. Data were collected from a follow-up survey conducted approximately 18 months after random assignment. The evaluation also included site visits to document program implementation and operations.

Prior to estimating Health Careers for All impacts, the research team published an analysis plan specifying key hypotheses and outcome measures, and registered the outcomes. An essential principle in the analysis plan was to organize and discipline the number of statistical tests conducted so as to avoid the problem of "multiple comparisons," whereby a potentially large number of the tests could reach conventional levels of statistical significance by chance, even if there were no effect on any outcome.

Executive Summary

Over the next decade, the demand for workers in healthcare jobs is expected to grow quickly as the population grows and ages.[1] Successfully meeting the need for more healthcare workers is important to both the national economy and providing quality healthcare to people. The growth in healthcare jobs also creates opportunities for low-income, low-skilled adults to find entry-level employment and advance to higher-skilled jobs. Almost all jobs in healthcare require some training after high school. Policymakers, workforce development organizations, educators, and other key stakeholders are very interested in how to enable the match between the nation's need for a skilled workforce and low-income adults' need for employment.

Health Careers for All Program

This report offers early evidence on the implementation and impacts of one promising effort to meet both needs, operated by a local workforce agency. With its **Health Careers for All** program, the **Workforce Development Council of Seattle-King County (WDC)** sought to test the effect on low-income populations seeking careers in healthcare of customized navigation services combined with funding for healthcare training programs. Over its first 18 months, compared to control group members, Health Careers for All program participants:

- were significantly more likely to participate in healthcare training;
- were significantly more likely to report working in a healthcare occupation;
- were about as likely to earn credentials; and
- participated in about the same number of hours of occupational training in all fields.

The Administration for Children and Families (ACF), within the U.S. Department of Health and Human Services, awarded a five-year grant in 2010 to fund the program under the **Health Profession Opportunity Grants (HPOG) Program** demonstration.[2] 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 partnership tested an approach to helping low-income adults access training in the growing healthcare sector.

Health Careers for All had several key components.

- ***Access to tuition-free occupational training,*** funded through Individual Training Accounts (ITAs) or grant-funded "cohorts" based at community or technical colleges. These cohorts were course packages open exclusively to Health Careers for All participants and fully funded by the program.

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1 http://www.bls.gov/news.release/ecopro.nr0.htm.

2 The WDC was funded for five years, plus a no-cost extension through March 2016. In 2015, the WDC received a new grant under the second round of HPOG for a modified version of Health Careers for All.

- ***Navigators*** who provided individual case management and guidance throughout a participant's time in the program, advising on employment and academic and non-academic issues, and coordinating financial assistance to fund training programs and to address barriers to program completion.
- ***Financial support for other needs*** to help remove potential barriers to education or employment. Examples of these financial supports include one-time rental assistance, assistance with utility bills, and transportation subsidies.
- ***Employment supports*** for assistance finding a job and retention once in a job. Over the course of the study this included individual services from navigators and job developers, as well as group-based job clubs.

Pathways for Advancing Careers and Education (PACE) Evaluation

Abt Associates and its partners are evaluating Health Careers for All as part of the **Pathways for Advancing Careers and Education (PACE)** evaluation. Funded by ACF, PACE is an evaluation of nine programs that include key features of a "career pathways framework."

The **career pathways framework** guides the development and operation of programs aiming to improve the occupational skills of low-income adults by increasing their entry into, persistence in, and completion of postsecondary training. These students are primarily older and nontraditional students. The framework describes strategies for overcoming barriers to education and training that these students can face. Key features of programs within this framework include:

- a series of well-defined training steps;
- promising instructional approaches targeted to adult learners;
- services to address academic and non-academic barriers to program enrollment, and completion; and
- connections to employment.

The Health Careers for All evaluation includes an **implementation study** that examined the design and operation of the program and enrolled students' participation patterns, and an **impact study** that used an experimental design to measure differences in educational and employment outcomes between program applicants randomly assigned to a group that could receive Health Careers for All (treatment group) and a group that could not (control group).[3] Using data from baseline surveys, a follow-up survey, program records, and site visits, this report provides the results from the implementation study and describes the early impacts of the program (18 months after random assignment) on education, training, and employment,

[3] Random assignment ensures that the treatment and control groups will be alike in their observed and unobserved characteristics, and that any systematic differences in their outcomes can be attributed to the treatment group having access to program services.

including earning a credential, the confirmatory outcome to assess the early effects of Health Careers for All.[4]

Key Findings

From the Implementation Study

- ***Upon entering the program, most participants had a clear interest in a particular training program, most often Nursing Assistant.***

By virtue of the enrollment process for Health Careers for All, many participants came to the program with a specific career interest, most often as a Nursing Assistant. Navigators noted that the program's requirement that applicants conduct research on the labor market and potential training programs typically solidified their interest in particular occupations.

From discussions with navigators, it seemed they typically did not spend much time using conversations with applicants/enrollees or career navigation tools to systematically explore alternative training programs or occupations. The primary exception to this pattern occurred when program participants expressed an interest in Nursing Assistant training, but navigators determined they would first benefit from foundational training to increase basic skills.

- ***Navigators provided participants with guidance on available training programs, but typically deferred to participants' preferences for training providers.***

Health Careers for All was based on a "consumer choice" model, which allowed for flexibility, individualized guidance, and wraparound support from the navigator. Each participant was assigned a navigator during enrollment and generally worked with that navigator throughout the course of her or his time in Health Careers for All. Navigators typically met with participants multiple times before participants selected and entered into training. These conversations focused on participants' career interests, as well as available training options. They also focused on identifying programs that were convenient for participants, in terms of both schedule and location.

Supervisory staff reported shared awareness among navigators of programs with lower completion rates or lower quality instruction. Navigators sometimes presented participants with alternatives if a participant's preferred program was not high-performing. However, navigators would not overrule participants who voiced interest in a specific training provider.

[4] See the PACE analysis plan (Abt Associates, Inc., 2014). The Health Careers for All analysis plan was also registered on the Open Science Framework site.

- ***Participants often made decisions about training providers based on schedule and convenience, resulting in a preference for private, non-degree granting schools, especially for entry-level training.***[5]

Navigators indicated 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 Nursing Assistants. Navigators reported that participants typically sought programs that minimized the effect of training on their other responsibilities, such as caring for children or their current jobs. This typically meant programs operated by private schools, as opposed to community colleges. These schools (referred to in this report as private schools) were also more attractive to participants since their courses were shorter in duration than community college courses, and they offered accelerated courses and evening or weekend options. Navigators also suggested that community college campuses could be more intimidating than a community-based private school especially for participants with limited prior educational experience beyond high school.

- ***The Health Careers for All model was designed to serve a wide array of occupational interests, but the majority of treatment group members who enrolled in training enrolled in Nursing Assistant courses.***

Health Careers for All sought to provide training opportunities for participants with occupational interests that ranged from career exploration and entry-level positions to advanced training. Though there was variety in participants' training choices, the majority of those treatment group members who enrolled in training chose Nursing Assistant. Few treatment group members sought training in other entry-level professions, and only a small percentage enrolled in more advanced occupational training programs.

This distribution likely reflects a combination of the consumer choice model used by the program along with most program participants' strong motivation to enroll in short-term training perceived to maximize the likelihood of full-time employment. Even with some efforts by navigators to present alternative options, Nursing Assistant training persisted as the top training choice among participants.

- ***Health Careers for All had limited success engaging participants in more advanced training during the follow-up period, especially after they enrolled in an entry-level training program.***

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 they understood that many participants enrolled because of a near-term need for full-time employment, they believed that entry-level healthcare employment would expose participants to new career options, which

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

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 who enrolled spent no more than three months in training.

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

- ***The cohort model increased participants' ongoing contact with their navigator during the training period.***

Cohorts, each with a dedicated navigator and on-campus coordinator, generally provided more ongoing navigation support to Health Careers for All participants. The navigator and coordinator were able to visit classes, meet with students, and keep up-to-date on their academic progress. With a large group of students concentrated in a single training program, this funding model made ongoing contact with participants easier than in ITA-funded training.

- ***The program initially relied on the navigators to provide employment supports. However, it added a job developer position shortly before the start of random assignment to expand employment supports available to participants.***

The WDC did not initially include job developers in its program design. The initial plan was for navigators to provide all employment services, so that navigators would be participants' single and consistent point of contact from application through employment. However, just before the start of random assignment, the WDC and TRAC added a job developer position. This was in response to increasing caseloads among navigators and a concern that navigators did not have adequate time to support all participants in identifying training, during enrollment, and through job search and retention.

- ***There was not a clear division of labor between navigators and job developers for employment supports; it largely depended on the skills and experience of the individual navigator.***

The late addition of the job developer position meant that the initial division of responsibilities between job developers and navigators was unclear. Some of the more experienced navigators tended to provide employment assistance and job search services themselves, rather than referring participants to job developers. These were typically navigators who had either prior professional experience in health occupations or longstanding relationships with healthcare employers. Less connected navigators were more likely to refer participants to job developers to receive extra job search assistance.

- ***Due to low levels of engagement between participants and job developers in the first year of the study, program management began requiring new participants to meet with a job developer prior to starting training.***

Health Careers for All navigators shared responsibility with job developers for supporting post-training employment. However, due to low levels of participant engagement in the first year of the study, program management began requiring new participants to meet with a job developer prior to starting training as part of "job success groups." The WDC and TRAC saw these groups as a way to strengthen participants' awareness of available employment support, focus their attention on employment as the long-term goal of the intervention, and solidify a relationship between individual participants and a job developer. The job developers found that the early meetings with participants did build those relationships, and helped them to identify barriers to employment earlier in the process.

- ***The Health Careers for All model demonstrates the ability of an employment and training program housed in a workforce agency to effectively engage Temporary Assistance for Needy Families (TANF) recipients.***

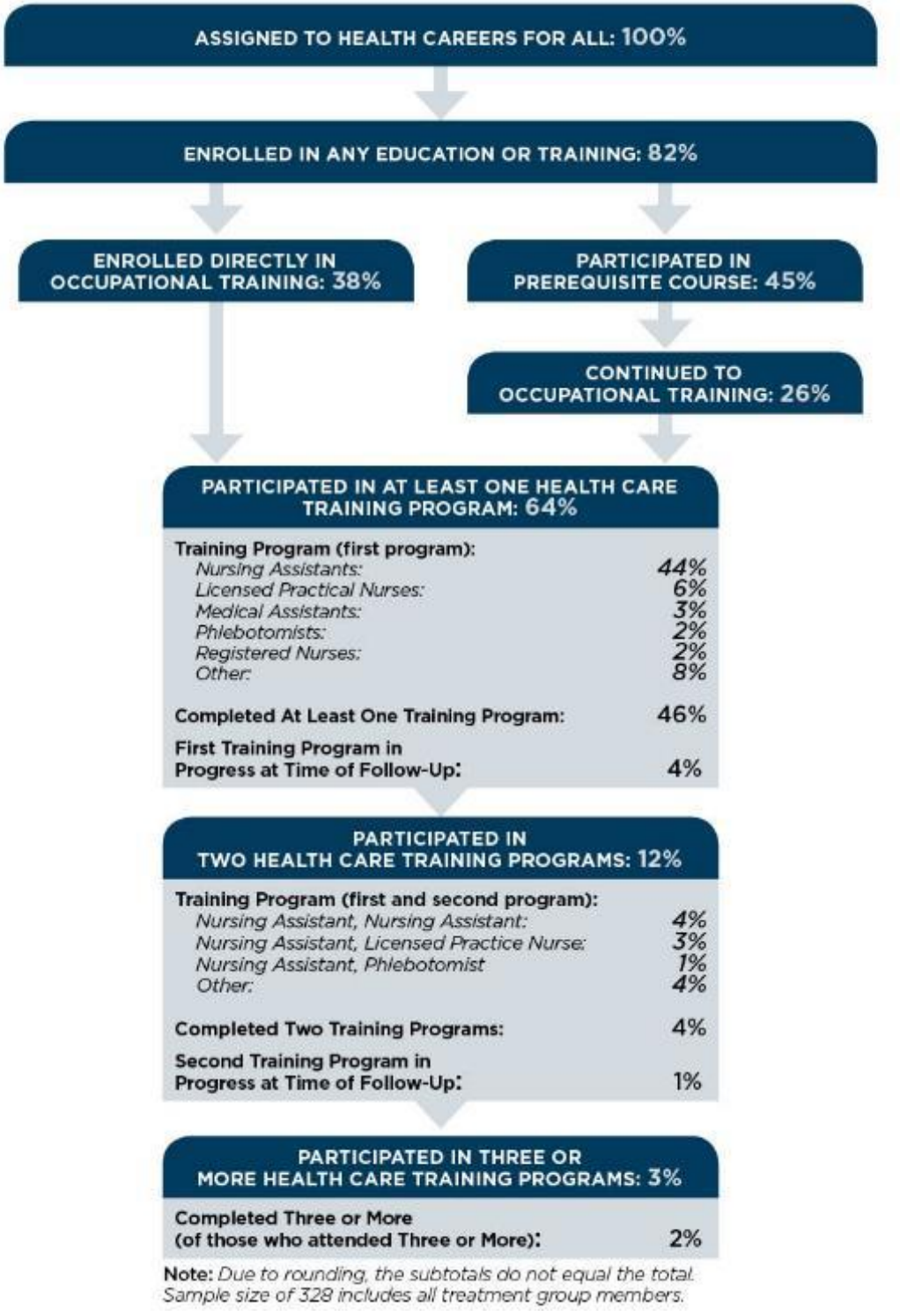
A central goal of Health Careers for All was to make healthcare training accessible to current TANF recipients. Program management at both the WDC and TRAC believed that sector-specific training and supports would benefit TANF recipients seeking careers to increase self-sufficiency. The organizations worked consistently to build and maintain 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. Regional administrators of Washington's TANF program spoke highly of the program and were enthusiastic advocates for inclusion of Health Careers for All as a training option for TANF recipients.

- ***More than 82 percent of treatment group members participated in some type of education or training program, either a prerequisite to training or a healthcare training program. Sixty-four percent attended at least one healthcare training program, and 12 percent participated in at least two.***

Exhibit ES-1 shows the proportion of all treatment group members who achieved key educational and training milestones in the Health Careers for All program. Eighty-two percent of treatment group members participated in at least one program: 45 percent started with a prerequisite, most commonly for Registered Nurse (not shown), 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 follow-up period.

Exhibit ES-1. Participation in and Completion of Education and Training among Treatment Group Members within an 18-Month Follow-Up Period



Note: *Due to rounding, the subtotals do not equal the total. Sample size of 328 includes all treatment group members.*

Eighteen percent of the treatment group did not participate in any training after they were randomly assigned. Other analyses (not shown) suggest most of this group (87 percent) attended at least one career counseling session, which might include the work readiness workshops or one-on-one job search assistance. Conversations with navigators suggested that at least some of these individuals took low-wage non-healthcare jobs in lieu of enrolling in a training program when unexpected financial pressures made immediate employment the top priority. The follow-up survey suggests the most common reasons treatment group members did not enroll in training were concerns about a lack of time to complete training, including family responsibilities, and worries about adequate availability of financial aid.

- ***Participation patterns were similar between TANF and non-TANF recipients.***

TANF recipients in the treatment group participated in training activities at a similar rate to those who were not on TANF at the time of random assignment. Among treatment group members, TANF recipients were more likely to enroll in a Nursing Assistant program (50 percent) compared with non-TANF recipients (40 percent), though the completion rates for both groups were almost identical (47 and 48 percent, respectively). TANF recipients did have a shorter average length of stay in the program (4.4 months) compared with non-TANF recipients (6.0 months).

- ***Program participants most commonly attended healthcare training at private schools.***

Exhibit ES-2 shows the type of institution where program participants received their first healthcare training. More than half (53 percent) of participants received training from private schools. However, a substantial portion (42 percent) attended training at community or technical colleges. About five 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; not shown) taking a short-term Nursing Assistant program. The participants at community colleges were more likely to enroll in the longer-term Licensed Practical Nurse programs (24 percent; not shown) that were more difficult to complete within the 18-month follow-up period.

Exhibit ES-2. Type of Program Attended, Completion Rates, and Average Length of Stay among Treatment Group Members Participating in the Health Careers for All Program over an 18-Month Follow-Up Period

Program(s) Attended	Participation Rate	Completion Rate	Average Length of Stay in Training (months)	In Progress at Follow-Up
Attended One Healthcare Program	58.5%	66%	2.6	6%
Nursing Assistant	32.4%	77%	1.4	
Licensed Practical Nurse	4.0%	14%	6.4	
Medical Assistant	1.4%	40%	3.5	
Medical Office Clerk/Secretary/Specialist	0.9%	33%	4.7	
Phlebotomist	0.9%	100%	2.5	
Registered Nurse	0.9%	33%	7.1	
Other	18.1%	63%	3.6	
Attended Two Healthcare Programs	14.8%	35%	4.5	18%
Nursing Assistant, Nursing Assistant	3.7%	46%	3.7	
Nursing Assistant, Licensed Practical Nurse	2.3%	0%	4.0	
Nursing Assistant, Phlebotomist	1.1%	50%	5.1	
Other	7.6%	38%	4.9	
Attended Three or More Healthcare Programs	4.1%	45%	3.9	9%
Type of Institution Attended (first program)				
Private, non-degree granting school	52.6%	72%	1.6	0%
Community or technical college	42.1%	48%	4.6	18%
4-Year college	5.3%	27%	7.4	9%

SOURCE: HPOG Performance Reporting System.

Note: Sample size is 270 and includes all students who participated in any training.

Completion rate and length of stay are calculated for those who attended the specified program.

Individual items may not sum to totals because students can attend more than one training.

- ***Despite substantial emphasis on supports from navigators and job developers throughout the training and job search process, there were few impacts on receipt of those supports.***

There was an eight percentage point impact on the receipt of job search or placement services (42 percent and 34 percent, respectively). However, there was no statistically significant impact on receipt of career counseling or help arranging supports for school, work, or family. These findings show that, despite extensive efforts to design support services for program participants, the level of support treatment and control group members received was not substantially different in many service areas.

From the Impact Study

- ***The program achieved impacts on the percentage of participants enrolling in training in a healthcare field. However, there was no impact on earning a credential or total hours of occupational training.***

The implementation study found that the Health Careers for All program produced an 11 percentage point difference in self-reported receipt of healthcare-related training (61 percent

versus 50 percent) between the treatment and control groups. However, as Exhibit ES-3 shows, there were mixed results in its effect on participants' educational outcomes.

Exhibit ES-3. Early Impacts on Education/Training Outcomes (Confirmatory and Secondary Outcomes) in the 18 Months Following Program Enrollment

Outcome	Treatment Group	Control Group	Difference	Standard Error	*p*-Value
Confirmatory Outcome					
Received a Credential (%)	48.7	45.0	3.7	4.6	.212
Secondary Outcomes					
Total Hours of Occupational Training at (average)					
A College	289.6	296.0	-6.4	53.3	.548
Another Education/Training Institution	54.2	17.1	37.1 ***	11.0	<0.001
Any Education/Training Institution	345.8	313.9	31.9	53.5	.275
Earned a Credential from (%)					
A College	12.3	14.2	-1.9	3.2	.722
Another Education/Training Institution	17.9	8.1	9.8 ***	3.1	<.001
A Licensing/Certification Body	42.1	38.5	3.6	4.4	.208
Sample Size[a]	246	220			

SOURCE: Abt Associates calculations based on PACE early follow-up survey.

NOTES: Statistical significance levels, based on one-tailed *t*-tests tests of differences between research groups, are summarized as follows: *** statistically significant at the one percent level; ** at the five percent level; * at the 10 percent level.

[a] Sample sizes are based on the subsample who responded to the PACE follow-up survey. Average lag from random assignment to interview was 18 months but varied between 15 and 22 months.

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

There was a nine percentage point impact on the proportion of treatment and control group participants reporting that they were working in a healthcare occupation during the 18-month follow-up period (45 percent and 36 percent, respectively). 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 above $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. Impacts on employment and earnings will be the focus of the next report.

- ***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.

Next Steps in the Health Careers for All Evaluation

This report on Health Careers for All focuses on the implementation of the program and its early effects on participants' education and training. At 18 months after applicants were randomly assigned into the program or not, the key program goal examined was increased occupational training, with limited analysis of employment and earnings. This reflects expectations that many students participating in the program would still be engaged in training at the end of 18 months.

The next Health Careers for All report will cover a **36-month follow-up period**. It will take a more systematic look at program effects on students' economic outcomes for a period when these are expected to occur. The report will examine **employment outcomes**, such as average rate of employment and average earnings over successive follow-up quarters, and **job characteristics**, such as occupation, hourly wage, receipt of benefits, and career progress. Thus, it will begin to answer whether the services provided by Health Careers for All translate into economic gains in the workplace in the longer term. An analysis at 72 months after random assignment will estimate long-term effects of the program.

1. Introduction

The federal government projects that over the next decade the fastest-growing occupations are in healthcare (Bureau of Labor Statistics 2015). Successfully meeting the need for more healthcare workers is important both to the national economy and to the provision of quality healthcare to the population. This demand also creates opportunities for low-income adults to find entry-level employment and advance to higher-skilled jobs. How to facilitate the match between the nation's need for a skilled workforce and the needs of low-income adults for employment is a topic of great interest to policymakers, workforce development organizations, educators, and other key stakeholders.

This report provides early evidence on the implementation and impacts of one effort to meet both needs, operated by a local workforce agency. The evaluation of the Health Careers for All program is a key contribution to understanding the effects of a strategy that combines assistance navigating training programs and support services with financial and employment supports.

Almost all jobs in healthcare require some postsecondary education or training. This requirement can range from weeks to multiple years for higher-skilled jobs. Research indicates many low-income, low-skilled adults face considerable barriers to completing even short-term training for entry-level jobs. Many are "nontraditional" students—that is, older, often parents, lacking adequate basic academic skills, and with few economic resources (NCES 2016). Often they enroll in college to obtain occupational certifications rather than academic degrees.

Research further shows that on average, nontraditional students fare poorly in postsecondary settings (Visher et al. 2008; Cooper 2010; Goldrick-Rab and Sorenson 2010). Institutions often assign students who need to improve their basic academic skills to developmental (remedial) education; many of these students never progress beyond it. Others drop out due to financial setbacks or difficulties juggling school, work, and family responsibilities. Some have difficulties navigating the college environment, including course sequences and financial aid applications. Many have difficulty meeting academic standards (Bridges to Opportunity Initiative 2008). Although research has documented these barriers to success, it provides less evidence about how to overcome them.

To increase knowledge about how to improve postsecondary outcomes for such a population, the **Health Profession Opportunity Grants (HPOG)** demonstration provided low-income individuals with opportunities for education, training, and career advancement in healthcare occupations to address workforce needs.[6] State, local, and tribal organizations such as community colleges and workforce agencies were eligible to receive these grants. Grantees could use funds to provide financial support for healthcare training, case management, and other support services to recipients of Temporary Assistance for Needy Families (TANF)

[6] HPOG was authorized by the Affordable Care Act.

benefits, as well as to other low-income adults, to prepare them for healthcare jobs in demand in the local economy. The Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services (HHS) administers the HPOG program.

In 2010, ACF awarded the **Workforce Development Council of Seattle-King County (WDC)** a five-year, $11-million HPOG grant to operate the **Health Careers for All (HCA)** program.[7] To implement the program, the WDC partnered with TRAC Associates (TRAC), a for-profit, community-based organization that provides employment services in the greater Seattle, Washington area.

As the local Workforce Investment Board (WIB), the WDC develops and implements training programs that are responsive to the needs of both employers and job seekers. The WDC's leadership saw the HPOG grant as an opportunity to address an emerging labor force need in the region and increase the accessibility of training and navigation services to low-income populations, in particular TANF recipients.

HCA participants had multiple training options and received concurrent supports and services. Additionally, the program was designed to allow participants, after working for a period of time, to return for additional, more advanced training courses.

The program, which the WDC began implementing in 2010, included the following components:

- ***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.
- ***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.
- ***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. The funding also helped pay for one-time unexpected costs such as rent assistance and utilities payments.

[7] The WDC was funded for five years, plus a no-cost extension through March 2016. In September 2015, the WDC received a new $9.4-million grant under the second round of HPOG for a modified version of Health Careers for All that it calls Health Workforce for the Future.

- ***Targeted recruitment of TANF participants*** provided an opportunity for low-income parents to access guidance and funded occupational training in pursuit of healthcare careers.

Abt Associates and its partners are evaluating HCA as part of the **Pathways for Advancing Careers and Education (PACE) evaluation**.[8] The evaluation of HCA includes both an implementation study to examine the program's design and operation and an impact study that used a random assignment research design to estimate the impacts of access to the program on participants' education and training, employment, and other outcomes.

This report describes HCA implementation and early impact findings on participant outcomes within an approximately 18-month follow-up period.[9] This chapter describes the PACE evaluation, summarizes findings from the research literature regarding the HCA program components, and provides a roadmap to the rest of the report.

1.1. Pathways for Advancing Careers and Education (PACE) Evaluation

Funded by the Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services, the PACE evaluation is a 10-year study of nine programs that include key features of a "career pathways framework." Initiated in 2007, PACE represents the first large-scale, multi-site experimental evaluation of career pathways programs. The career pathways framework guides the development and operation of programs that aim to improve the occupational skills of low-income individuals, primarily older nontraditional students, by increasing their entry into, persistence in, and completion of postsecondary training. Central to accomplishing these improved outcomes, the framework articulates signature strategies for overcoming the barriers that nontraditional, occupational students often face. For example, key features of programs within this career pathways framework include having a series of well-defined

Programs in PACE

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

[8] For more information on the PACE study, go to http://www.acf.hhs.gov/opre/research/project/pathways-for-advancing-careers-and-education.

[9] The time frame was selected because the average completion of the 15-month follow-up survey was 18 months post random assignment.

training steps, promising instructional approaches, supportive services, and connections to employment (Fein 2012).

Programs consistent with the career pathways framework typically have multiple components, as illustrated by HCA. The multi-component nature of such programs reflects the observation that nontraditional students face multiple barriers to success and that addressing only a single one is unlikely to substantially improve their employment or other prospects. The career pathways framework is flexible, however, and not a specific program model. Thus, which components a local program adopts and how it implements them can vary greatly.

Reflecting this diversity, each of the nine programs in the PACE evaluation represents a different program model. All share some program components that are part of the career pathways framework, but each also has distinct and unique elements, reflecting the target populations, occupational trainings offered, and industries of focus. Because of this variation, PACE evaluates and reports findings for each program individually.

The central goal of the PACE evaluation is to determine the effectiveness of each of the nine programs using a common evaluation design and conceptual framework (**impact study**). The most critical element of the evaluation design is **random assignment** of eligible applicants either to a **treatment group** that can access the career pathways program or to a **control group** that cannot. Random assignment ensures that the study's treatment and control groups will be the same in their observed and unobserved characteristics, and that any systematic differences in their subsequent outcomes (i.e., the program's impacts) can be attributed to the treatment group having access to the program. Systematic differences in outcomes due to the characteristics of individual members in each group can be ruled out.

Consistent with this career pathways framework and the career pathways theory of change (described in Chapter 2) guiding the PACE evaluation, the key outcomes for which the PACE study estimates effects are in the **education and training and employment areas**, although the study also estimates effects in other areas, such as family well-being.

The PACE implementation and early impact program reports analyze outcomes over approximately **18 months following random assignment**. The impact analyses rely on **surveys** of individuals in the treatment group and control group. Future reports developed for different studies will analyze outcomes three years and six years after random assignment.[10] These latter two sets of reports will also include benefit-cost studies for some of the nine PACE programs.

As a condition of receiving HPOG funds, ACF required that grantees participate in any ACF-sponsored evaluation if selected to do so. In addition, ACF included additional evaluation funding to PACE to include three HPOG grantee programs in the evaluation. ACF and the research team selected HCA as one of these three because the program planned to use its HPOG grant to implement promising features of the career pathways framework, and it was of

[10] These reports will be part of the Career Pathways Intermediate Outcomes and the Career Pathways Long-Term Outcomes projects, respectively.

sufficient scale to generate a research sample large enough to support a standalone impact study.[11]

1.2. Research Context for Key Features of the Health Careers for All Program

Health Careers for All was a navigator-based approach to enrolling and supporting participants in foundational-, entry-, and advanced-level healthcare training. The program used a **consumer choice model** in which participants selected any accredited healthcare training program in King County offering training for an occupation for which there was labor market demand. Navigators were expected to help participants make informed choices about courses and training providers. Navigators and other staff were also expected to help participants find employment related to their training.

Navigator Support. The navigator role was central to the HCA model. Navigators were expected to provide program participants with individual case management and guidance on academic and non-academic issues, coordinate financial assistance to fund training programs, and address barriers to program completion. For participants also enrolled in TANF (a key target population), the navigators were responsible for coordinating with TANF case managers to avoid duplication of services (e.g., funding for support services) and to ensure that HCA participants were meeting TANF requirements, namely work participation activities.

Several rigorous studies have demonstrated that augmenting existing advising services with more intensive advising, sometimes combined with other services, can lead to greater persistence in education, although sometimes only for the short term (Bettinger and Baker 2011; Scrivener and Weiss 2009).

Support for Occupational Training. HCA paid for occupational training courses for its participants through two methods: ITAs and cohorts. ITAs—vouchers that can be used to pay for training—is how the Workforce Investment Act (WIA) funded training to eligible participants. Program participants generally had more flexibility in their use of ITAs than those with WIA-funded training. For example, WIA-funded ITA recipients were required to select training programs from an eligible provider list.[12]

One rigorous evaluation of an ITA program compared three approaches to providing ITAs that varied the level of customer choice and the cap on ITA amount (Perez-Johnson et al. 2011). Overall, the evaluation found that participants who received more-structured guidance and higher-valued ITAs were more likely to complete their training, to earn a credential in the field

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[11] The criterion for "promising" included positive empirical evidence of effectiveness for key components of the program or systematic, well-developed approaches to overcoming identified barriers to student success.

[12] Under WIA, the local workforce agency typically gave customers some choice about how they could use the voucher, though it established parameters in terms of the type of training that could be pursued, the training providers that were eligible to receive the ITAs, and the dollar amount available for training. WIA operated for most of the time Health Careers for All operated. WIA was replaced on July 1, 2015, by the Workforce Innovation and Opportunity Act (WIOA).

of their training, and to be employed in the occupation for which they trained compared with those who received less-structured guidance and less ITA funds. This suggests that more-structured navigation has positive effects over assistance that is less directive, though the higher ITA cap may have contributed to the better outcomes.

In addition to ITAs, HCA also used grant funding to run cohorts based at community or technical colleges. These cohorts were course packages open exclusively to Health Careers for All participants and fully funded by the program, with each cohort provided supplemental supports through an on-campus coordinator and designated navigator. A rigorous evaluation of learning communities at a community college found positive impacts on student experience and short-term educational outcomes (Scrivener et al. 2008). Similar to the WDC's cohort trainings, students who were placed in a learning community took a series of three courses with the same peer group and received expanded counseling and tutoring services. Students in the program group were more likely to rate their college experience as "good" or "excellent," had higher academic performance during the period of the learning community (one semester), and completed developmental courses more quickly. However, results on longer-term persistence in college were mixed.

Financial Support for Other Needs. HCA navigators could access funds to help participants overcome barriers to completing their training. Examples of financial supports included one-time assistance with rent, assistance with utility bills, and transportation subsidies. Providing additional financial supports to participants aligns with a large body of evidence indicating that insufficient resources are a barrier to entry and completion of education and training for low-income students, and that financial assistance can increase postsecondary attendance and persistence (Deming and Dynarski 2010; Dynarski and Scott-Clayton 2013).

Employment Supports. HCA navigators and, later, job developers were expected to help participants find and retain healthcare jobs. Supports included individual job search assistance and group-based job clubs. There is evidence showing the effect of one-on-one and group-based job search activities on employment and retention. Much of the most rigorous research has focused on recipients of either public assistance or unemployment insurance (UI).

A long-term randomized controlled trial focused on quickly employing participants through services such as job clubs or case management, often in positions that required little or no prior training, found positive effects on near-term earnings (Hamilton et al. 2001). An experimental study of job search services for UI claimants found that job search assistance had positive effects on earnings and employment, though these varied across the multiple sites in the study (Decker et al. 2000). Most recently, a random assignment study of intensive WIA services, which included navigation and case management for job seekers, found positive earnings impacts (McConnell et al. 2016).

1.3. Structure of This Report

The organization of the remainder of this report is:

- Chapter 2 presents the evaluation's conceptual framework and research questions; details the evaluation design; describes the study sample; and summarizes the evaluation's data sources.
- Chapter 3 describes the program's context and administrative structure.
- Chapter 4 describes the implementation study findings, including training programs and instructional approaches, participation in training and comparisons of participation in education and training across the treatment and control groups, academic and nonacademic advising, employment supports, and financial assistance provided by the program.
- Chapter 5 presents the impact study findings, focusing on two main impacts—hours of training and credentials earned over an 18-month follow-up period—as well as a series of other career and life outcomes.
- Chapter 6 summarizes the implementation and impact findings and discusses their implications for the longer-term study.

The appendices provide additional details about baseline data (Appendix A); survey-based outcomes (Appendix B); and the approach to outliers, or extreme values (Appendix C).

2. PACE Evaluation Design and Data Sources

This chapter describes the larger PACE evaluation design and its application to Health Careers for All. It begins with a discussion of the PACE career pathways theory of change and the research questions that the theory of change implies. It then briefly describes the evaluation design and analysis procedures for the impact study, including the random assignment process and the outcome of that process. A brief description of the implementation study analysis follows.[13] Finally, the chapter summarizes the main data sources for the implementation and impact studies.

2.1. Career Pathways Theory of Change

The career pathways theory of change guides both the implementation study (that is, it identifies which aspects of program services are expected to affect outcomes) and the impact study (that is, it identifies which outcomes the program is expected to affect).[14] The theory of change also generates key hypotheses about the direction of expected effects that the impact evaluation will test for statistically significant change. In addition, the theory of change implicitly assumes time horizons by which the program is expected to have effects, and thus the theory determines the key outcomes at any particular time of follow-up.

Exhibit 2-1 depicts the PACE career pathways theory of change, as applied to HCA.[15] It shows how a program (inputs) is hypothesized to produce effects on intermediate outcomes, which in turn will lead to effects on main outcomes. Effects on intermediate outcomes are expected earlier than effects on main outcomes, but the exact timing depends on particular features of the program, such as the length of occupational training and what, if any, steps precede it. In addition, because effects on intermediate outcomes may persist over time, the study will also measure them at later points in time.

As shown in Exhibit 2-1 (on page 9), starting in the box at the left, the theory of change begins with two types of program inputs:[16]

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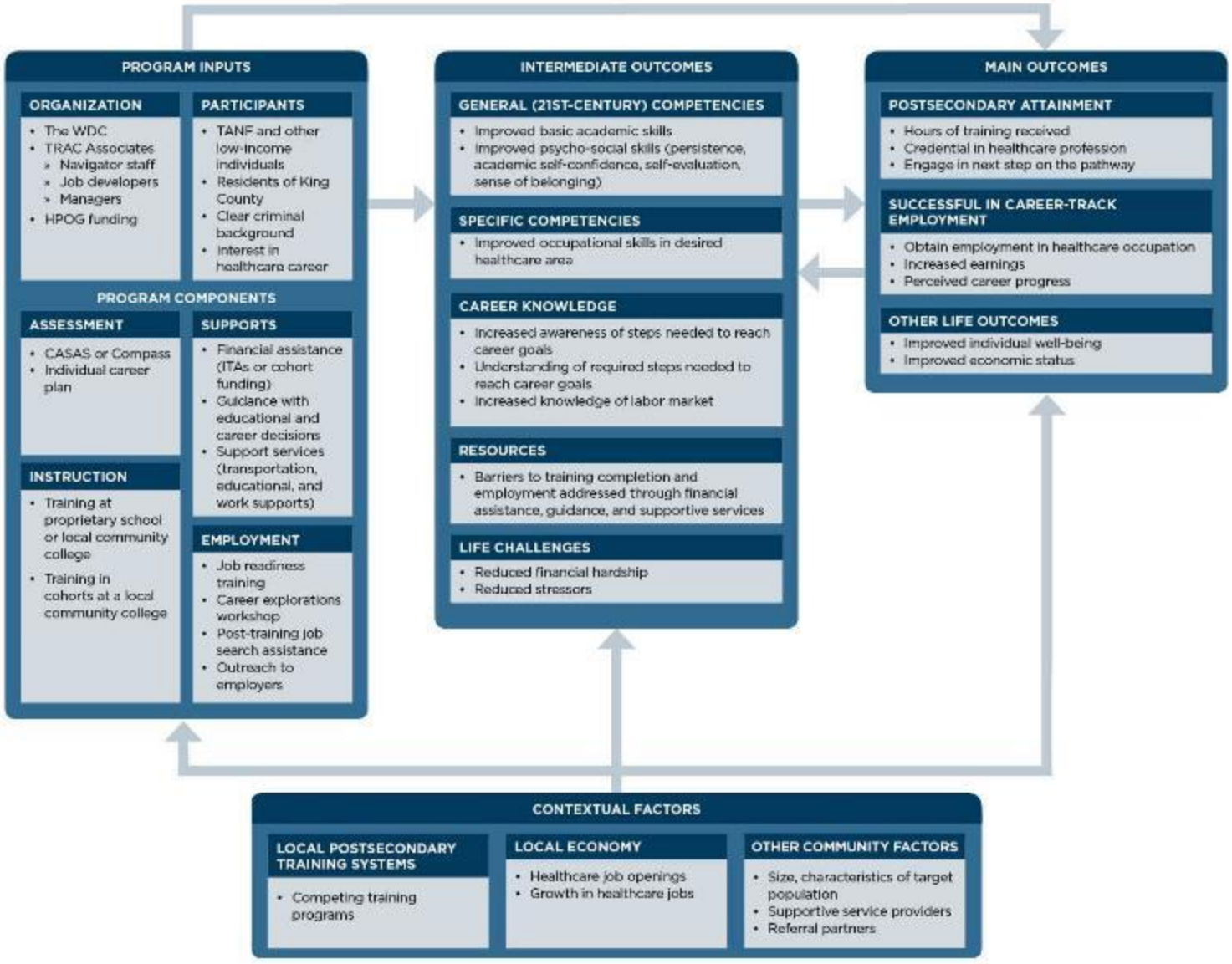
[13] The research team developed a detailed evaluation design report for the PACE evaluation, including the evaluation of Health Careers for All. See Abt Associates, Inc. (2014).

[14] The implementation study describes the set of services that students in the treatment group experienced. In addition to descriptive statistics, it includes a small number of impact estimates that show the difference in services received between treatment and control group members. The impact study focuses solely on estimates of the effects of the program on intermediate and main outcomes.

[15] See Fein (2012) for an extended description of the framework.

[16] Program inputs can include both components available only to treatment group members and components available to both treatment and control group members, because the interaction of the former with the latter can lead to impacts.

Exhibit 2-1. Health Careers for All Theory of Change



- **Organization.** Organizational inputs include the lead agencies (the WDC and TRAC), funding (HPOG), and staff (navigators, job developers, and program leadership).
- **Participants.** This individual input includes the characteristics of the target population: being low-income (current TANF recipient, income below 175 percent of the federal poverty line (FPL), or income above 175 percent of FPL with extenuating circumstances such as low basic skills or disability), having an interest in a healthcare career, and passing a background check.

This same box includes four kinds of program components that are expected to improve participant outcomes by overcoming specific barriers that are hypothesized to impede successful entry into and completion of occupational training:

- **Assessment.** Staff used CASAS® reading or math tests or ACT's Compass™ to determine whether participants needed to start in foundational skills training, and for those entering occupational training, whether they were eligible for specific programs (e.g., Licensed Practical Nursing).
- **Instruction.** The instruction varied based on where the participant received it. Participants who used ITAs accessed training provided in the community. Participants in cohorts accessed training designed specifically for HCA based at community colleges.
- **Supports.** The navigators provided individual case management and guidance throughout the program. Additionally, the program supported occupational training through ITAs and cohorts; provided transportation vouchers; helped participants access child care; and linked participants to other needed supports.
- **Employment.** Services included career exploration and job club workshops, one-on-one assistance with job search, and job development.

The middle box shows the intermediate outcomes, where improvements are expected to lead to better main outcomes. These intermediate outcomes include improved basic academic skills for participants who need remediation and psycho-social skills such as grit and academic self-confidence; attainment of occupational-specific skills; career knowledge; and reduced financial hardship.

In the far right box, the main outcomes are the primary targets that the program seeks to change. These include:

- **Increased postsecondary attainment**, specifically accumulated hours and credits (as measures of progress toward a credential), occupational training credentials, and engagement in the next step of the pathway.
- **Successful employment**, including obtaining employment in the healthcare industry, increasing earnings and job benefits, and career advancement.
- **Improvements in other outcomes** such as individual well-being.

Influencing expected effects are a number of contextual factors. These include the types and number of postsecondary training systems in the local area, the local economy (in particular

healthcare jobs), and other community factors such as the size and characteristics of the target population and the number and nature of service providers.

2.2. Research Questions for Evaluation of Health Careers for All

The implementation study documented HCA as implemented and captured participation patterns of treatment group members in training and other activities (see Chapter 4 for implementation findings). The impact study (see Chapter 5) aimed to measure the effectiveness of the program in improving students' intermediate and main outcomes.

Implementation study research questions:

- What is the intended program model? What is its institutional and community context?
- What intervention was actually implemented? Did it deviate from plans or expectations?
- What were the treatment group's participation patterns and experiences with program services?
- What are the differences in services, including training, received by treatment and control group members?

Impact evaluation research questions:

- What were the main effects of HCA on:
  - Educational attainment, including hours of occupational training received and credentials earned?
  - Entry into career-track employment, higher-wage jobs, earnings, and perceptions of career progress?
  - Participant and family well-being, including income and material hardship?
- To what degree did the program affect intermediate outcomes in the theory of change, such as:
  - Confidence in career knowledge and access to career supports?
  - Psycho-social skills such as grit, academic self-confidence, core self-evaluation, and social belonging at school?
  - Life stressors, such as financial hardship, life challenges, and perceived stress?

As mentioned, the program's theory of change not only describes hypothesized causal connections, it also identifies time horizons over which they are expected to occur. HCA primarily emphasized short-term training, though participants could return for additional training that would enable them to earn higher wages in higher-level jobs. Participants who attended one training generally opted for a course they could complete in 12 months or less. Thus, this early impact report focuses primarily on the first training that participants enrolled in and the credentials they earned as a result.

Later PACE reports will focus more on employment outcomes and on education and training outcomes resulting from activities that require a longer time to complete. Continued measurement of such outcomes will be important, given that the career pathways framework implies that workers may alternate education/training and employment as they move along a pathway.

2.3. PACE Evaluation Design and Analysis

As mentioned in Chapter 1, the PACE evaluation uses a random assignment research design to estimate the impact of access to the program on students' outcomes. The great benefit of such a design is that when properly implemented, it ensures that estimated effects reliably can be attributed to access to the program and not to unmeasured differences in characteristics or external circumstances between individual students with access (treatment group) and without access (control group) to the program.

However, maintaining the comparability of the treatment and control groups requires comparing all of those in the treatment group with all of those in the control group (what researchers refer to as an "intent to treat" analysis). A critical implication of this is that the evaluation estimates the impact of access to the entire program as opposed to the impact of the program's specific components. The evaluation does so by comparing the entire control group with the entire treatment group, but regardless of the treatment group's take-up of any particular HCA program component or any component at all.

A second feature of the PACE impact study design is that study participants (both treatment and control group members) can access education, training, and support services available in the community that are not exclusive to the program being evaluated. In the case of HCA, the evaluation estimates the effect of the program's components above and beyond what was otherwise available elsewhere in the community during the study period. For example, TANF recipients enrolled in the study could enroll in other education and training programs available as part of Washington State's welfare-to-work program. Similarly, both treatment and control group members could access services for jobseekers funded through WIA or other programs delivered through the one-stop system. Study participants may have also qualified for Pell Grants or other financial assistance if they enrolled at local community or technical colleges. Thus, the control group's experiences represent what would have happened to program participants absent HCA.

In summary, the impact study assessed whether the existence of this multi-component career pathways program led to better outcomes for students who were offered the chance to participate, given what these students could have obtained without the program.[17]

2.3.1. Intake and Random Assignment Procedures

The research team worked closely with each program in the PACE evaluation to design and implement program intake and random assignment procedures. Once HCA staff decided an applicant was eligible and appropriate for the program, the applicant became a candidate for the PACE study. The steps in study intake and random assignment are summarized below. (Information about HCA recruitment and referral, intake, and assessment follow in Chapter 3.)

- **Informed Consent.** Applicants deemed eligible for the program at a first intake appointment returned for a second intake appointment, at which navigators discussed the PACE evaluation and offered its informed consent form. Those who signed the form became study participants and proceeded to the next step.
- **Baseline Data Collection.** Study participants completed two baseline surveys: the Basic Information Form (BIF) and the Self-Administered Questionnaire (SAQ). (Each is described in Section 2.4.)

Applicants who did not agree to join the PACE study, who declined the PACE consent form, or who did not complete the BIF and SAQ were excluded from the study sample, which also excluded them from the opportunity to access HCA.

- **Random Assignment.** Navigators used an online system to randomly assign study participants to the treatment group or the control group. The random assignment ratio was 1:1, so that the treatment and control groups would each include approximately half of the research sample.
- **Services According to Random Assignment Status.** Study participants assigned to the treatment group could access HCA services (but were not required to use them). Those assigned to the control group could not access the program's services (but could use services available in the community).

Between September 2012 and December 2014, HCA staff randomly assigned 654 study participants: 328 to the treatment group and 326 to the control group.

2.3.2. Characteristics of the Study Sample

Exhibit 2-2 shows the percentage distributions of treatment and control group members across selected background characteristics. The *p*-values in the last column test the hypotheses that

[17] Technical appendices provide additional details about analysis methods. Appendix A describes data collected at baseline, gives further detail on baseline characteristics of treatment and control group members, and explains procedures for using these data to adjust for imbalances arising by chance during random assignment. Appendix B provides detail on survey-based outcome measures, adjustments for item non-response, and analyses of survey non-response. Finally, Appendix C documents the approach to outliers.

there are no systematic differences between the groups at baseline for these characteristics.[18] The treatment group had a higher proportion of men and a higher level of one year or more years of college experience but no degree. Thirty percent of the treatment group had at least one year of college but less than an Associate's degree compared with 18 percent of the control group. Greater percentages of the control group had lower levels of education (high school or equivalent, less than one year of college). Overall, the distribution of educational experience in the treatment group differs significantly from that of the control group.

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) bad luck. Checking with HCA 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 2-2. Given these checks, the research team concluded that the differences – despite the very small *p*-value for the balance test – are likely due to chance and addressable by regression adjustment in the impact analysis.[19]

Exhibit 2-2 also shows the composition of the study sample overall. The sample is consistent with the priority groups defined in the program 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, about 40 percent reported receiving public assistance or welfare at baseline. Approximately 80 percent received benefits from Supplemental Nutrition Assistance Program (SNAP, formerly known as Food Stamps) or Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). About 60 percent reported experiencing financial hardship in the past year, and most (70 percent) were not working at the time of random assignment.

[18] The *p*-value from chi-squared tests indicates the likelihood that the observed value or a larger value would occur if there was no difference between the two samples. For example, a *p*-value of .32 means that even if the characteristics of the members in the treatment and control groups were identical, the observed difference or a larger difference would occur 32 percent of the time.

[19] See Section A.3 of Appendix A for a discussion of the effects of the regression adjustment on estimates of HCA impacts.

Exhibit 2-2. Selected Characteristics of the Health Careers for All Study Sample

	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	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 Degree	13.4%	13.2%	13.5%	
High School 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's Degree or Higher	18.4%	18.7%	18.2%	
Income				.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 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
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

SOURCE: PACE Basic Information Form

SNAP is Supplemental Nutrition Assistance Program. WIC is Special Supplemental Nutrition Program for Women, Infants, and Children.

NOTES: 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 100.0% due to rounding. Public Assistance/Hardship in Past 12 Months does not because the categories are not mutually exclusive and exhaustive.

Study participants were older than traditional college students, which is consistent with the career pathways framework. 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. About two-thirds of study participants were non-Hispanic Black and 13 percent were Hispanic.[20] 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, while 18 percent already had an Associate's 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-term training or that they planned to work part-time while in training.

Fourteen percent of participants reported having been arrested at some point in their lives. This does not necessarily mean that the arrests resulted in convictions or that having been convicted disqualified them from specific healthcare jobs. Moreover, this is a lower rate of arrest compared to a recent study which found that, by age 23 nearly one-third of Americans had been arrested for a crime (Brame et al 2014).

2.3.3. Analysis Plan for the Impact Study

Prior to estimating HCA impacts, the research team published an analysis plan specifying key hypotheses and outcome measures.[21] The team subsequently assessed data quality, refined the plan, and publicly registered it on the Open Science Framework website.[22] 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, in alignment with ACF's commitment to promote rigor, relevance, transparency, independence, and ethics in the conduct of evaluations.[23] Pre-specification and registration help to establish the scientific rigor of research by documenting that inspection of early results did not influence the selection of findings in PACE reports.

Hypothesis Testing

An essential principle in the PACE analysis plan is to organize and discipline the number of statistical tests conducted. Like most social policy evaluations, the nine PACE studies target an array of different outcomes. If the evaluation did not adjust in some way for multiple hypothesis tests, a potentially large number of the tests would reach conventional levels of statistical significance by chance, even if there were no effect on any outcome. This is known as

[20] The individuals self-identifying as Black includes American-born individuals as well as immigrants and refugees, primarily East African countries.

[21] See Abt Associates, Inc. (2015).

[22] See https://osf.io/33exb/.

[23] See https://www.acf.hhs.gov/opre/resource/acf-evaluation-policy.

the problem of "multiple comparisons." To address this issue, the team established three categories of hypotheses: confirmatory, secondary, and exploratory:

- **Confirmatory hypotheses** involve outcomes most critical to judging whether the program seems to be on track—that is, producing the results expected at a given follow-up duration. Given the relatively small sample sizes in the PACE studies, the research team generally limits such tests to one per program in the early impact report (at 18 months after randomization for HCA) and two tests in each subsequent report (at three and six years after randomization)—selecting outcome(s) under the "main" category in the program's theory of change (see Exhibit 2-1).

  Each confirmatory hypothesis has an expected direction of change, an increase or decrease in the outcome. Therefore, the research team tests the confirmatory hypothesis for significance only in the specified direction, ignoring possible effects in the other, by applying one-tailed tests of statistical significance.

- **Secondary hypotheses** involve a set of additional indicators consistent with expected effects within the period covered by the study report. As with the confirmatory hypothesis, each secondary hypothesis has an expected direction of change. The research team tests each for significance only in the stated direction.

- **Exploratory hypotheses** cover an additional set of possible effects whose direction and timing are less certain. Accordingly, the team is applying two-tailed tests to these hypotheses.

Chapter 5 identifies the specific hypotheses in each category tested for HCA.

Impact Estimation

Random assignment ensures that on average, samples of treatment and control group members will have similar characteristics at the outset and that measured differences in subsequent outcomes provide unbiased estimates of program impacts. To address any effects on impact estimates by chance differences arising from random assignment, the research team typically estimates impacts using a procedure that compensates for chance differences in measured baseline characteristics. Such procedures also help to increase the precision of estimates.

The approach applied in PACE involves, first, estimating a statistical model relating each outcome to baseline variables for the control group sample. Next, the procedure applies this model to calculate predicted values for each treatment and control group member. In the last step, the approach calculates average differences between actual and predicted values in both groups, and the differences between the two averages provide the impact estimate. Appendix

A provides a detailed description of this method as well as a sensitivity analysis in which HCA impact estimates are estimated both with and without regression adjustment.[24]

The team estimated this approach both for continuous outcomes (e.g., total hours) and for binary outcomes (e.g., yes/no questions). For survey-reported outcomes, weights were used to average outcomes. Additional details can be found in the technical appendices.

Formally, estimation uses the following equation:

$$\hat{\delta} = \frac{1}{n_T}\sum_i T_i\left(Y_i - \hat{Y}_i\right) - \frac{1}{n_C}\sum_i (1-T_i)\left(Y_i - \hat{Y}_i\right),$$

where $\hat{\delta}$ is the estimated impact of being in the treatment group (whether or not the person attended the program or used any of the offered services); Y is the observed outcome of interest (e.g., ours); $\hat{Y}$ is a prediction of Y based on baseline variables measured at random assignment; T is an indicator of treatment status (which is set equal to 1 if the individual is assigned to the treatment group and 0 if the study participant is assigned to the control group); n_T and n_C are the respective sample sizes in the treatment and control groups; and the subscript *i* indexes individuals.

2.3.4. Analysis Plan for the Implementation Study

The PACE evaluation's implementation study relies on qualitative and quantitative analyses and a broad variety of data sources. Key analyses include the following:

- **Descriptive.** Describing each program's design and context and developing its theory of change relied primarily on review of program materials (e.g., the application to ACF for HPOG funding, in the case of HCA); in-person discussions with program staff and leadership during two rounds of site visits; and biweekly or monthly calls between study and program leadership during the study period when random assignment was ongoing.
- **Quantitative.** A quantitative analysis of the proportion of program participants who reached major program milestones served to systematically document their experience in the program. This analysis relied on college records, follow-up surveys of treatment and control group members, and in the case of HCA, the HPOG Performance Reporting System, which is described in the next section.
- **Fidelity.** This quantitative analysis of how and the extent to which participants moved through the program also enabled the comparison of the actual delivery of the program to its design. For HCA, this involved examining at what level students entered the program, the proportion who completed or failed to complete one or more training

[24] As explained in the appendix, the approach is a variant on the traditional approach to regression-adjustment methods used in impact analyses. The latter typically involves linear regression of each outcome on an indicator of treatment status and a series of baseline variables. In this approach, the coefficient on the treatment indicator provides the regression-adjusted impact estimate.

programs, and the extent to which those who completed a program moved on to a subsequent one. To address the question of how program delivery changed over time, program staff were asked about internal or external obstacles and how staff altered the program in an attempt to overcome them.

- **Service Differences.** The random assignment design of the impact study implicitly ensures that any differences in outcomes between the treatment and control groups result from the different educational inputs experienced by the two groups. Thus, a key task of the implementation study is to describe the difference in services the two groups received. This is particularly important for the PACE evaluation, as the control group is not barred from receiving services available in the community, including those comparable to the study's treatment group. In the case of HCA, excepting the cohorts, all of the occupational training courses were open to both treatment and control group members.

2.4. Data Sources

The PACE evaluation's implementation and impact studies use a variety of data sources.

- **Baseline Surveys.** Prior to random assignment into the evaluation, program applicants complete two baseline surveys: The Basic Information Form (BIF) collects demographic and economic information. The Self-Administered Questionnaire (SAQ) measures a variety of attitudes, beliefs, and psycho-social dispositions, as well as more sensitive personal characteristics. For the study, individuals who consented to participate completed the BIF and SAQ at their intake appointment.
- **Follow-Up Survey.** The research team sought to survey all PACE study sample members starting at 15 months after random assignment. On average, the survey occurred approximately 18 months after random assignment. The survey asked questions on participants' training and service receipt, postsecondary educational attainment, employment, income, debt, and participation in income support programs. It used a mixed-mode approach, conducted initially by telephone and then in person for those participants not reached by telephone. For the HCA study, Abt's survey unit completed surveys with 246 treatment and 220 control group members, yielding response rates of 75 percent and 67 percent, respectively.[25]
- **HPOG Performance Reporting System (PRS).** ACF required that all HPOG grantee programs use the PRS to record the activities and outcomes of program participants. For this report, the research team accessed the PRS to identify participant activity and service data on treatment group members in HCA.
- **Site Visits and Monitoring Calls**. For the implementation study, the evaluation team conducted two rounds of site visits to each PACE program. For HCA, the first visit occurred in February 2013, five months after random assignment began. The goal of this

[25] See Appendix B for response bias analyses.

visit was to document the program's theory of change and key components (e.g., navigation services and support for occupational training) and to assess implementation of evaluation procedures. The second visit was in October 2014, just before random assignment concluded. The goal of this visit was to document any modifications to operations or the provision of services, as well as implementation challenges.

During both visits, the research team interviewed program managers; staff involved in evaluation activities (e.g., recruitment, intake, random assignment); staff involved in service provision, including navigators, job developers, and instructors at two community colleges involved in cohorts and one private school; staff at partner agencies with an important role in service delivery or referrals (Washington State Department of Social and Health Services, State Health Workforce Council); and healthcare employers. In addition to these visits, the evaluation team had regular conference calls with program staff during the random assignment period to discuss program updates, recruitment activities, intake and random assignment processes and any challenges, engagement in the program by treatment group members, and staffing changes.

- **Program Documents.** The research team obtained and reviewed program documents, including funding applications; program materials such as applications, assessment tools, educational and career planning documents, and syllabi/lesson plans for the cohort classes; annual reports; and reports to funders.

3. About Health Careers for All

Understanding the context in which a career pathways program such as Health Careers for All operates generally, and its local context specifically, provides useful background on the forces shaping program design and implementation. This chapter begins with a description of the local context during the time the program operated (2010 to 2015). Additional details about program administration follow, including the division of responsibility for service provision and implementation of new program components.[26]

3.1. Local Context

Three aspects of the local environment are important to evaluating the design, implementation, and impacts of HCA: target population demand for the program, the local labor market, and the presence of similar services in the community.

3.1.1. Population

The first contextual factor is whether there is a sizable target group who might benefit from the program. To be eligible for HCA, an applicant had to, in priority order:

- be a current TANF recipient;
- have a family income of less than 175 percent of the FPL 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 able to pass a background check to ensure that they did not have convictions that would prevent them from working in a healthcare occupation.

King County in Washington State has more than two million residents, and Seattle (population 637,850 in 2014) is its largest city. In 2014, the King County population was 69 percent White, 15 percent Asian, and six percent Black. About nine percent of the population was Hispanic or Latino. More than one-quarter (26 percent) of King County residents spoke a language other than English at home.[27]

Though the median household income in King County, $73,035 in 2014, was higher than the national average, many residents fit the program's income criterion. In 2014, 18 percent of the King County population had incomes below 150 percent of the FPL, and 22 percent had incomes below 185 percent of the FPL. About 25,000 King County households (three percent) had received cash assistance, and 86,000 households (11 percent) had received SNAP benefits

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[26] For additional information about program design, see Glosser, Hamadyk, and Willie (2013).

[27] In this section, all King County and Washington State data from 2010–2014 American Community Survey 5-Year Estimates, https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF; all U.S. data from Current Population Survey, Annual Social and Economic Supplement, https://www.census.gov/data/tables/time-series/demo/income-poverty/cps-hinc/hinc-01.html.

in the previous 12 months. The 2014 poverty rate, 12 percent, had increased one percentage point from 2012.

Between 2012 and 2014, King County's public assistance caseload fell by roughly 20 percent.[28] This was likely a function of increased enforcement of a 60-month lifetime limit on TANF benefits and of improvements in the local economy that enabled recipients to obtain employment and leave assistance.

3.1.2. Local Labor Market

A second contextual factor is whether the local labor market offers sufficient jobs in the occupations for which program participants trained. If jobs are not available, HCA's goal of successful career-track employment for its program completers would not be attainable.

Overall, the local economy improved during the PACE study period (2012 to 2015).[29] In March 2015, the King County unemployment rate was 4.6 percent, more than three percentage points lower than in March 2012.[30] The healthcare jobs for which HCA provided training are 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 Nurses and Licensed Practical Nurses); more than 30,000 were employed in "Healthcare Support" occupations (e.g., Nursing Assistants, Medical Assistants, Home Health Aides). 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.[31]

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 there. An analysis of its early impacts by the Seattle Minimum Wage Study Team (2016) 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. It also found slight decreases in employment among low-wage workers as a result of the new law. As discussed below, a large segment of HCA participants received training for entry-level jobs that may have been affected by the new minimum wage law.

3.1.3. Comparable Services

The third contextual factor (and the one most pertinent to the evaluation's random assignment design) is the degree to which comparable educational opportunities and supports were

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[28] Washington State Department of Social & Health Services; http://clientdata.rda.dshs.wa.gov/Home/ShowReport?reportMode=2.

[29] The Health Careers for All program operated over 2010-2015, but was part of the PACE study between 2012 and 2015.

[30] Bureau of Labor Statistics, http://data.bls.gov.

[31] 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.

available outside of HCA. Programs have the greatest potential to produce impacts when they offer services that are distinguishable from those are already available in the community. The nature of other educational opportunities and supports in the community also has some bearing on program completers' ability to build on initial training successes after leaving the program.

Exhibit 3-1 summarizes the differences in services available to treatment group members versus control group members participating in TANF and WIA.

Exhibit 3-1. Comparison of Career Pathways Components Available to PACE Control Group and Treatment Group Members

Career Pathway Component	Standard Community Offerings Available to Treatment and Control Groups	Health Careers for All Components Available to Treatment Group Only
Assessment	• Assessments differ by program	• CASAS or Compass • Formal and informal assessment of skills, barriers, and needs
Financial Assistance for Training	• ITAs funded through WIA (limited availability) • Tuition assistance through BFET, TANF, Seattle Jobs Initiative, Worker Retraining (state funding), and Pell Grants	• Financial support provided through ITAs to a wider range of training providers and for prerequisites as well as occupational training • Cohort trainings • Ability to return for subsequent training
Supports	• Case management through TANF • Career guidance and advising from WIA • Supportive services from TANF and WIA • Career navigators through Seattle Jobs Initiative Career Pathways Program	• Career guidance and advising on healthcare careers provided by navigators • Tutoring and test prep • Support services
Employment Services	• Standard resources at WorkSource Centers • TANF employment services, including job search, on-the-job training, job readiness • Job search assistance from training programs	• Work readiness, job development and job search assistance tailored to healthcare occupations

SOURCE: Program documents and site visits

HCA supported program participants' occupational training through navigation and financial support for tuition and other expenses. The program also provided test preparation and career exploration workshops and offered employment assistance. Control group members may have been able to piece together a similar level of services in the community, though it would require effort and would be subject to eligibility and the availability of funds.

The services available to control group members varied by whether they were enrolled in TANF, SNAP, or received other government services. Current TANF recipients, for example, 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).[32] TANF recipients can attend short-term vocational training and be compliant with the work participation rules. However, there is a 12-month lifetime limit on counting vocational education toward a TANF program's work participation rate. Still, many healthcare occupational training programs can be completed in that time frame, and if the trainings are short enough, recipients could potentially attend more than one.

Some control group members qualified for non-core services funded under WIA and provided at American Job Centers (WorkSource Centers in King County); specifically, intensive services (which include case management) and training (for which participants receive an ITA to fund occupational courses). Though all job seekers at WorkSource Centers can access core services, such as resume and job search workshops or self-directed job search, only a subset qualify for the non-core intensive services and training. As well, funds for ITAs were capped and fluctuated annually.[33]

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 (private schools) because their programs did not meet standards for required number of hours of instruction.[34]

In terms of other supports, control group members receiving TANF met with a case manager at least monthly and had access to supportive services such as child care and transportation assistance. Control group members who had access to WIA-supported intensive services or training could access supportive services such as transportation subsidies.

As for employment services, control group members receiving TANF had access to job clubs, resume assistance, and instruction on interview skills. Control group members could also access core services at WorkSource Centers, as indicated above. However, neither TANF nor the WorkSource Centers tailored services to healthcare occupations.

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

[33] The local WIA program was part of the national U.S. Department of Labor WIA Gold Standard Evaluation. The PACE research team worked with the WIA evaluation team to develop procedures ensuring that control group members from the WIA evaluation were not also randomly assigned under PACE, and vice versa.

[34] According to the U.S. Department of Education, 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's 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's 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's degree or equivalent. Must meet specific qualitative standards. Note that institutions meeting only category 3 are eligible only for Direct Loan participation. Source: https://ifap.ed.gov/sfahandbooks/attachments/0405Vol2Ch4ProgramEligibiliy.pdf.

Additional employment and training supports are also available for SNAP recipients. 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 SNAP participants who are not also participating in TANF.

Control group members who lived in the City of Seattle or White Center, an unincorporated community adjacent to Seattle, could also enroll in Seattle Jobs Initiative programs, which offered career pathways programs that provided short- and longer-term training at community colleges and career navigation in four different industries, including healthcare.[35] Those healthcare trainings were more limited than HCA's options, but the offerings overlapped.[36]

The above exhibit demonstrates the relatively robust set of services available to all low-income residents in King County who sought employment and training supports. Components available only to treatment group members as part of the HCA program design are:

- **Navigation support** specifically focused on healthcare occupations;
- **Assured financial support** for training through an ITA or cohort;
- **Access to a wider range of training providers for ITAs**, including private schools that were not on the WIA approved training provider list;
- **Ability to return for more advanced training** after completing an initial one; and
- **Job search services integrated into the program model** and tailored to healthcare occupations.

3.2. Program History and Structure

The Workforce Development Council of Seattle-King County is a nonprofit workforce organization founded in 2000. The WDC implements the Workforce Innovation and Opportunity Act (and, formerly, the Workforce Innovation Act) in the Seattle-King County area through seven WorkSource Centers and affiliates, as well as various community connection sites which offer online access to WorkSource services.

Through a competitive procurement process, the WDC selected TRAC as a subcontractor to provide services under the HCA program. TRAC, a for-profit employment and training company in Western Washington, has a long history of providing contracted employment services in the area through WIA and other federal, state, and local funding sources. It operated a range of occupational assistance programs for disadvantaged job seekers, including WIA's Adult and Dislocated Worker programs, the Washington State Basic Food Employment and Training

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

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

program, and various programs funded through the state's Office of Refugee and Immigrant Assistance and the Seattle Housing Authority.

3.2.1. Staffing

TRAC staff were responsible for study intake and for providing treatment group members with navigation and employment services. TRAC staffed HCA with a manager, nine navigators (equaling six full-time equivalents), and two part-time job developers to provide post-training employment services.

The navigators had primary responsibility for recruiting HCA participants. Program leadership hired navigators based on prior experience in the healthcare field and their experience helping low-income populations access education and training resources. The navigators had diverse professional experiences from which they could draw to support participants' healthcare career goals. This included applied experience in the healthcare field, work as instructors in healthcare training programs, and experience providing navigation and job search assistance in more general workforce development and TANF programs. Two of the navigators had experience as healthcare professionals, including one who started as a nursing assistant, completed Licensed Practical Nurse training, and was enrolled in an Registered Nurse program while working as a navigator. This navigator could offer firsthand experience in applying to and completing successive nursing training courses.

The navigators were based throughout King County: three in TRAC's Seattle office, one in its Kent office, and five in WorkSource Centers around the county. In addition, navigators had a regular presence in the local Community Services Offices of the Washington State Department of Social and Health Services, where TANF services are provided.

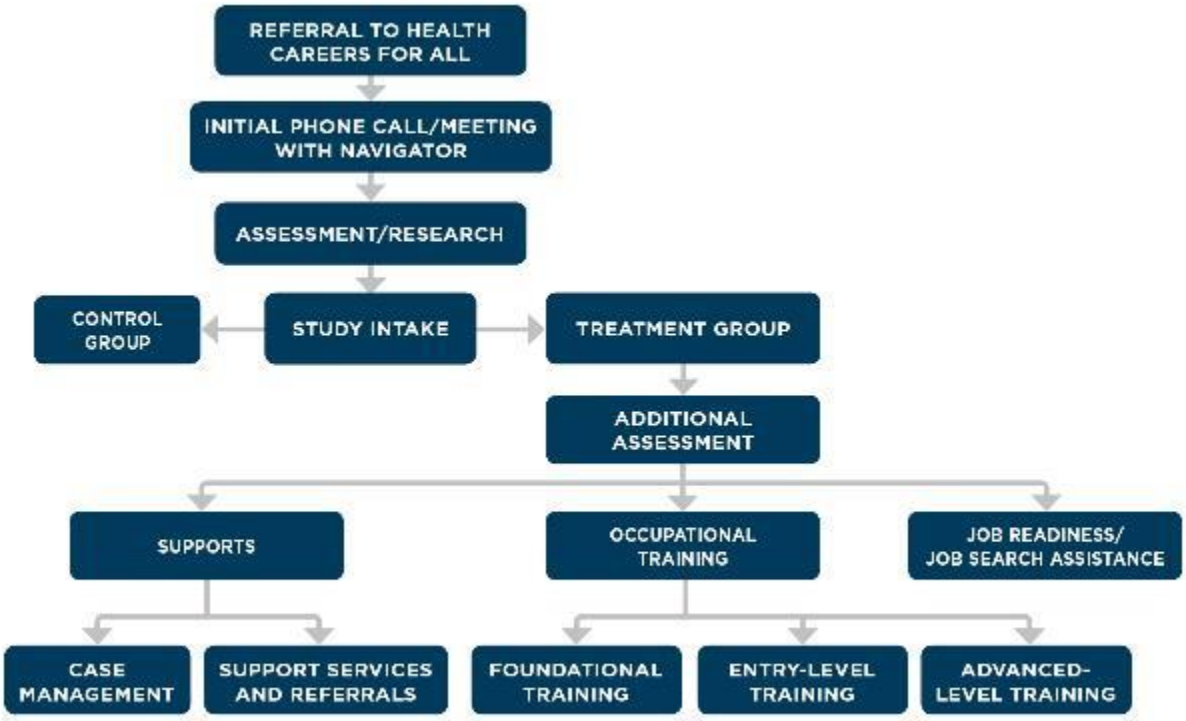
3.2.2. Program Partners

In addition to TANF, HCA built partnerships with the Seattle and King County Housing Authorities, community colleges, and other community organizations for referrals. The program also had industry partners, including employers and labor unions.

3.3. Enrollment and Key Program Components

The rest of this section describes the study and the program components outlined in Exhibit 3-2. Chapter 4 provides details about the services as implemented.

Exhibit 3-2. Health Careers for All Service Provision



3.3.1. Recruitment and Referral

Program leadership prioritized building and maintaining a strong relationship with the state TANF agency to maximize the number of TANF referrals they received. The WDC administrators emphasized the potential benefit of healthcare training opportunities for this population and their goal was that at least one-third of HCA enrollees would be current TANF recipients. This aligned with ACF's goals for HPOG grants.

Navigators were responsible for recruiting potential participants. In addition to concerted outreach to TANF recipients, navigators recruited participants from other local organizations serving low-income individuals who might be interested in a healthcare career. Largely leveraging existing relationships that the WDC and TRAC had, navigators conducted outreach to WorkSource Centers, local colleges and private training institutions, housing authorities in Seattle and King County, and other community partners. Navigators built relationships with staff at these organizations and made regular presentations to groups of potential participants (e.g., at orientation sessions or relevant classes).

3.3.2. Intake and Assessment

As outlined in Exhibit 3-2, the steps to apply for the program and enroll in the PACE study following a referral were:

- **Initial phone call/meeting with navigator**. An applicant's first step was an introductory conversation with a navigator. During the initial call/meeting, the navigator gauged the applicant's general interest in and appropriateness for the program.
- **Assessment/research.** Following the initial meeting navigators asked participants to complete labor market and employer research forms. The labor market research required applicants to explore an occupation, including starting salary and wage growth, opportunities for advancement, and expected qualifications. The employer research had applicants conduct an informational interview with an employer in their target occupation.

  Applicants were required to complete an academic skills assessment during intake. The particular assessment used depended on a participant's training interests and career goals. This was typically a CASAS test, which helped the navigator assess the applicant's need for basic skills training prior to entering occupational training. However, there was no strict test score cut-off; navigators used CASAS scores to guide their conversations with applicants. Those interested in more advanced training often completed the Compass instead, depending on the entrance requirements of their target program (e.g., for Licensed Practical Nurse training).

  In addition to the academic assessment, applicants completed a non-academic program assessment to ensure that training in a healthcare profession was a good fit with their interests and skills. This initial assessment also identified any barriers that would keep an applicant from successfully completing training and finding employment. The program assessment included information on employment goals, training and education, technical skills, housing, child care, transportation, legal issues, and medical concerns. In addition to this assessment, the navigator asked the applicant about interest in the healthcare field, motivation to be trained and start employment, and short- and long-term goals. The information from the assessment and subsequent conversation helped the navigator gauge the applicant's suitability for the program.
- **Study intake.** An applicant continued through the intake process in a series of in-person, one-on-one meetings with the navigator. The navigators tried to complete the intake process in two meetings, but the exact number of meetings varied depending on the applicant. During the intake meetings, navigators checked for income eligibility (for non-

TANF referrals), initiated a background check, and administered academic and non-academic assessments.[37]

- **Random assignment.** After making the eligibility and suitability determinations, navigators had applicants sign the PACE study consent form and complete the BIF and the SAQ; then they conducted random assignment.

Those study participants assigned to the treatment group were referred to the next step, a meeting with a navigator for additional assessment and program services. Those assigned to the control group received a list of alternative resources in the community.

The navigators reported that the intake/enrollment process occasionally required multiple meetings with the applicant in advance of random assignment. For non-TANF applicants, it was often time-consuming to obtain the necessary documentation to demonstrate income eligibility. The requirement to research the local labor market and employers also occasionally delayed the process, though program management believed that the research was important to ensure applicants were truly interested in a healthcare career.

3.3.3. Supports: Role of the Navigators

The WDC and TRAC program managers found that many low-income applicants lacked the information and support to assess healthcare training options on their own. Sometimes they were unaware of the available healthcare career options; sometimes they were unfamiliar with education and training programs that provide credentials for entry-level employment.

Navigation was central to the HCA model. TRAC intended for the navigators to help participants with decision-making—not just around career planning and selecting training courses and providers, but also about supportive services that aimed to increase their probability of completing the program. Navigators were expected to help participants identify and enroll in training programs and to support participants who wanted to move on to the next level of training. Navigators also were expected to help participants identify and access available supports such as housing assistance, food assistance, subsidized child care, and transportation assistance.

When other resources were not available or did not cover costs, navigators could offer program support service funding. Support service funding typically covered items such as books, school supplies, uniforms, certification fees, and transportation. There was no cap on support service funds. Staff indicated the program spent about $600 per participant.[38]

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[37] Potential participants had to be current TANF recipients or have a household income no greater than 175 percent of the FPL. The maximum monthly earned income limit for a family of four to be eligible for TANF in Washington is $1,225. The FPL was $23,050 for a family of four in 2012, the year the WDC began enrollment for the PACE evaluation. The program made a small number of exceptions for applicants with higher incomes who had other barriers to employment, such as a disability or low basic skills.

[38] Average cost per participant over the entire life of the grant. From Health Careers for All's local evaluation five-year summary report.

3.3.4. Occupational Training

HCA supported three levels of training:

- **Foundational training** in basic skills within the healthcare context, career exploration, and college success skills development designed as an on-ramp to occupational training that would result in a credential.
- **Entry-level training** as part of the credentialing process for a specific occupation such as Nursing Assistant or Phlebotomist.
- **Advanced-level training** as part of the credentialing process for a specific occupation such as Licensed Practical Nurse or Registered Nurse. For some participants, this level also included support for completion of coursework that was a prerequisite for enrollment in a nursing program or other more advanced training program.

Depending on the type of training, the program covered the cost of tuition through either an ITA or a cohort at a community college. There was no stated cap on the ITA amount. Instead, the WDC and TRAC set a general guideline based on the overall HPOG budget for the year and the projected enrollment numbers. The average ITA amount for occupational training was $1,400. Participants who completed one training course could apply for and receive a second ITA to support an additional credential. Per its HPOG grant agreement, the WDC's goal for the program was that at least 25 percent of participants would return for more advanced training.

HCA funded foundational, entry-level, and advanced-level cohorts. Two cohorts were offered during the PACE study period: the foundational cohort "Introduction to Healthcare Careers" at Green River Community College and the nursing cohort at South Seattle Community College (both are described in Exhibit 4-1). The rationale for the Associate's Degree in Nursing cohort is described in Exhibit 3-3.

Cohorts were filled through short-term, targeted outreach—program management worked with community colleges to set up a cohort, then the navigator assigned to the cohort conducted outreach in the weeks prior to its start.

Exhibit 3-3. Advanced-Level Cohort Strategy

As part of PACE, HCA funded one advanced-level cohort, an Associate's Degree in Nursing cohort at South Seattle Community College. (There were several other advanced-level cohorts that were not included in the study because they started before study enrollment began.)

The WDC chose to include this cohort in the program model for several reasons. First, the HCA–funded cohort increased access to advanced-level training in nursing for students who may not have been able to participate otherwise. Nursing degree programs have a number of prerequisite requirements, followed by a competitive application process. Typically, students interested in a nursing degree apply to multiple programs, with different entrance requirements; even if they meet the entrance requirements they may not get in due to the competitiveness of other applicants. For students facing significant barriers, this process is challenging and intimidating. Alternatively, in the cohort setting, HCA participants who met the entrance requirements were guaranteed to get in.

Second, HCA cohorts provided supplemental supports through an on-campus coordinator and designated navigator. Further, moving through the program with the same cohort afforded peer support and interaction. Third, on a systems level, HCA leadership hoped to show colleges and employers that low-income students facing multiple barriers, including English language learners, can succeed in nursing education.

3.3.5. Employment Supports

HCA planned a number of services to help participants find employment. Navigators and job developers were responsible for providing employment supports. The job readiness and job placement services provided were expected to be individualized to the participant. The HCA staff worked with participants to identify individual employment objectives and barriers. The program planned some group components such as "job success groups," job clubs, and career explorations workshops, and some individual activities such as interview and resume preparation or job referrals.

The model also expected navigators and participants to continue interacting after participants found employment. The intent was to support job retention, encourage career progression planning, and to maintain contact in the event the participant was interested in returning to training.

4. Implementation Study Findings

Prior chapters described the key components of the Health Careers for All program. This chapter reports on the services as implemented. It then describes patterns in how participants experienced the HCA program, including enrollment in occupational training and receipt of navigation services. It concludes by comparing education and training and service receipt for the treatment group versus the control group.

4.1. Program Recruitment

HCA operated for two years before entering the PACE study. The transition to program entry via random assignment was difficult for some referral partners. Ultimately, program leadership addressed referral partner concerns and the program was able to meet its HPOG enrollment goals.[39]

- ***The program overcame recruitment challenges early in the study period through staff trainings and concerted and consistent outreach to partners and potential participants.***

After HCA joined the PACE study and began admitting participants through random assignment, some referral partners were hesitant to continue referring their clients. Program leadership at the WDC and TRAC collaborated with the PACE research team to develop messaging to the referral partners, as well as to potential participants, regarding the study design and its random assignment protocol. The WDC and TRAC developed talking points and trained navigators to ease the concerns of partners and participants, including by describing random assignment as an equitable way to allocate limited resources. While partners were not happy about random assignment, they saw enough potential benefit to their clients that they remained willing to make referrals even when entry was not guaranteed. Ultimately, the program met its HPOG enrollment targets.

- ***Health Careers for All exceeded goals for TANF recruitment through strong partnerships with local TANF administrators and case managers.***

Program leadership prioritized outreach to current TANF recipients, setting a goal that at least one-third of program participants would be TANF clients. More than 40 percent of study participants were TANF recipients. The program exceeded its goal through concerted efforts by navigators to market the program to TANF case managers and TANF recipients. Program staff also secured buy-in from senior-level TANF administrators, who saw the program as a starting point for recipients interested in a healthcare-related career.

[39] The WDC was the last of the three HPOG grantees to be included in PACE. At the time random assignment started, HCA had approximately 325 HPOG training slots left, thus limiting overall sample size to 650 as opposed to the initial goal of 1,000 for each PACE site.

Program leadership had strong relationships with the regional administrators of Washington's TANF program at the Washington State Department of Social and Health Services that predated the HPOG grant. Through these connections, HCA staff could emphasize the benefit of the program for TANF recipients, including its sector-specific training and navigational support for those interested in a healthcare career and who wanted specialized guidance on career and training options (versus the generic counseling available from other sources). The program was presented as an alternative means to support short-term training in a healthcare field. Because the program aligned with TANF work participation requirements, current recipients could meet these requirements through participation in HCA–funded training.

Additionally, program leadership designed its enrollment process to comply with TANF rules, specifically by engaging enrollees quickly in an activity that satisfied the TANF work requirements. TANF administrators reported that the navigators were consistently attentive to the short timeframes TANF case managers must adhere to in getting participants engaged in work activities, and that the navigators were dutiful in documenting service delivery in the TANF agency's case management program.

Local TANF administrators facilitated meetings with Community Services Offices, where HCA staff made presentations to frontline staff. These presentations, combined with fact sheets and talking points that program leadership developed for TANF case managers, helped increase TANF staff awareness of the program. Additionally, several navigators were co-located in Community Services Offices, giving them direct access to TANF case managers. Both the navigators and TANF administrators emphasized the value of co-location. In addition to becoming familiar with TANF policies and requirements, the navigators reported that co-location helped them develop trust with TANF case managers, who in turn were more likely to refer clients to HCA.

4.2. Implementation of Navigation Services

A key HCA component was navigation services. Navigators aimed to provide continuous support, starting at the application stage and continuing through training program selection and completion and then participants' transition to employment. In practice, navigators did more facilitating of activities than guiding participant decisions.

- ***Most participants had a stated interest in a particular training program when they applied for Health Careers for All.***

Although the program was designed to help participants consider various occupations and their associated training, many applicants already had specific training interests, most often Nursing Assistant. Navigators reported that the research that prospective participants conducted as part of the application process likely solidified their interest in particular occupations. Requiring that this labor market and training research come before study intake meant that applicants who ultimately were randomly assigned to the control group also likely identified programs of interest.

Navigators reported they did not typically use meetings or career navigation tools to encourage program participants to explore alternative occupations or training programs. The primary exception was participants who expressed an interest in Nursing Assistant programs but had low basic skills. Navigators would recommend that such participants first enroll in a foundational training program to improve their skills.

- ***Navigators provided guidance on available training courses, but typically deferred to participants' preferences.***

Navigators reported that although they might have one or two training program options in mind for a specific credential (e.g., Nursing Assistant), they typically deferred to participants' preferences. Conversations with HCA administrators and navigators suggested that navigators who were more knowledgeable about training providers—either from their own professional experience in the healthcare industry or from their experience supporting previous participants—were more likely to discuss the array of available training options, including the benefits and drawbacks of each. Navigators new in the job or with less experience in the healthcare field were more deferential.

Supervisory staff reported navigators knew which programs had low completion rates. Navigators sometimes presented alternatives if a participant selected a low-performing training provider. Navigators would rarely overrule participants. When they did overrule participants, it was most common that the training was for an occupation for which there was not labor market demand. As one noted, "I don't advise, I just provide options." Conversely, participants who did not have a strong preference for a provider generally accepted navigators' suggestions.

Program staff expressed a preference for community and technical colleges over private schools in many cases. Staff cited the quality of instruction, availability of practical experience, and better supports for students with limited English proficiency. However, staff also recognized the benefits of private schools, including lower student-teacher ratios, flexible scheduling, and shorter programming. Program leadership noted that a benefit of HCA was that participants could use ITAs for private schools that were not on the state-approved training provider list. As a result, treatment group members had access to a somewhat broader array of programs than did control group members who received ITAs through WorkSource Centers.

- ***Participants often preferred private schools.***

Navigators reported that participants sought programs that could fit with their other responsibilities, including child care and employment. For Nursing Assistant training in particular, this often resulted in participants preferring private, non-accredited institutions over community or technical colleges. Private, non-accredited institutions typically offered more flexible schedules, easier to access locations, and shorter courses, and they were not likely to be oversubscribed. They offered accelerated courses and evening or weekend options. Navigators also reported they were smaller and thus less intimidating for nontraditional students than community colleges.

The exception to this preference was enrollment in more advanced training such as Medical Assisting and Licensed Practical Nurse. Unlike Nursing Assistant, there are relatively few training options. Participants seeking these trainings were more likely to enroll in community and technical colleges. For them, navigators' primary role was to help assess whether the participants were competitive applicants based on their academic profile, given that college training programs often were oversubscribed.

- ***Navigators helped participants manage training logistics.***

Navigators helped troubleshoot the logistics of enrollment, such as applying to programs, arranging transportation to classes, securing child care, and developing schedules to ensure participants had time for classes, studying, and other commitments. Navigators helped participants find the supports they needed to juggle school with work and family. In some cases, navigators addressed these barriers by providing direct funding. As one stated, "I am the case manager, so I need to know what in your personal life is affecting your professional life. If I don't know, I can't help."

- ***Navigators' interaction with participants declined after training enrollment, particularly for participants in ITA-funded programs.***

The HCA model aimed to foster participants' success in their training programs through relationships with navigators after enrollment in training. Navigators reported that the frequency of contact with participants post training enrollment varied according to participants' needs—from several times per week for those who needed support services or assistance with academic issues to a minimum of monthly. Navigators contacted participants through a combination of phone calls, text messages, emails, and in-person meetings. The contact method was a function of where participants were enrolled in training (e.g., near their navigator), participants' preferred methods of contact, and their needs.

Though navigators tried to interact with participants in short-term training programs weekly and those in longer programs once or twice a month, regular contact became more difficult once training started. Navigators attributed the change to participants' lack of time once classes began, as well as to participants perceiving their navigator's role as limited to helping them identify and fund training. Navigators working with participants in cohorts reported they had more contact after enrollment. They visited classrooms, tracked attendance, and when possible, even accessed students' grades to check for academic problems.

After participants completed their initial training program and found employment, the frequency of contacts diminished further. Navigators had discretion about when they could "soft exit" a participant and reduce their frequency of contact—typically to once per month for six months. Navigators would "hard exit" after that period—at which point it became the responsibility of the participant to reach out to the navigator for assistance.

4.3. Implementation of Training

HCA participants could enroll in foundational-, entry-, and advanced-level training depending on their interests and skill levels. Exhibit 4-1 describes examples of the training programs that

participants selected. Key findings on the implementation of the training components of the program are summarized below.

Exhibit 4-1. Three Training Programs that Enrolled Health Careers for All Participants

Foundational
Introduction to Healthcare Careers (Cohort) – Green River Community College

Green River Community College has four campuses south of Seattle: in Kent, Enumclaw, and suburban and downtown Auburn. In partnership with HCA, the college offered an "Introduction to Healthcare Careers" foundational cohort. The one-quarter program bundled basic skills education with healthcare skills training, plus a separate support class:

- Introduction to Anatomy/Physiology
- Introduction to Skills and Function (hands-on class)
- Exploring Healthcare Careers
- College Skills (e.g., time management, note taking, professionalism)

The program was offered during the summer quarter each year during the PACE study period. Its target group was students who needed foundational skills and weren't yet sure what type of healthcare career they wanted to pursue. Classes were held from 9 am to 3 pm four days per week for eight weeks. For the third cohort of Introduction to Healthcare Careers students, the instructors added a two-week orientation during which students completed enrollment forms, coordinated access to support services, and built rapport with their peers and instructors. Four instructors taught the program as a team, using a variety of instruction methods such as lecture, labs, small group activities, and group presentations.

The program yielded 10-12 college-level credits, plus an additional six credits for the support class component. However, the credits counted as electives, rather than prerequisites, if a student moved on to enroll in healthcare training. Students completed the first two courses during the first half of the cohort, and the next two courses during the second half. The support class lasted the entire eight weeks. In addition to college credit, students received certifications or permits in CPR, HIPAA, blood-borne pathogens, first aid, and food handling.

Entry Level
Blossom Nursing Assistant Training School

Blossom is a private, non-degree granting school with locations in Lakewood and Kent. It offers Nursing Assistant training, a Medical Assistant bridge to Nursing Assistant, and Home Health classes including mental health, dementia, and nurse delegation.

Blossom offers flexible and accelerated Nursing Assistant courses. It offers a three-week daytime class (four to five days per week), a four-week evening class, and a five-week weekend option. It also offers a three-day intensive option for Certified Medical Assistants to become Nursing Assistant-certified more quickly. The Nursing Assistant courses emphasize the specific skills on the state certification exam through lecture, videos, and hands-on practice. Specialized add-ons such as Home Health are designed to increase the employability of Blossom graduates.

Advanced Level
Licensed Practical Nurse (Cohort) – South Seattle College

South Seattle College (one of four Seattle College District community colleges) is located in West Seattle. HCA funded a nursing cohort beginning in spring 2013. The cohort students began with prerequisite courses in their first year and continued on to Licensed Practical Nurse (LPN) coursework during their second year.

Students who had not completed any prerequisites prior to enrollment took a full course load for the duration of the cohort. Total credits each quarter ranged from 12 to 18. Transition from prerequisite courses to LPN courses required a certain GPA and score on the Test of Essential Academic Skills nursing entrance exam. Application to a regular LPN program tends to be highly competitive, but students in the HCA cohort were automatically enrolled in its LPN portion if they met all of the standard program entrance requirements.

During the LPN portion of the coursework, students had classes two days a week and clinical one day over the weekend. Clinical placements changed each quarter based on its focus: long-term care, acute care, community care, and

pediatrics/obstetrics. Four instructors worked with the cohort—a different pair taught each quarter. The program had the same strict performance requirements as the college's other LPN programs: maintain a 78 percent average on tests and assignments and not miss more than two days of clinicals.

HCA provided extra support to the LPN cohort students. The group had a designated navigator and a program coordinator at the college who worked together to guide students through the program's administrative and academic requirements, such as immunizations, certifications, and background checks. The navigator and program coordinator also coordinated support services and academic supports such as study groups, tutoring, and test prep.

- ***Although the WDC offered all three levels of training programs, most study participants enrolled in Nursing Assistant (entry-level) training.***

The skill level of program entrants and the relatively short duration of the training influenced most HCA participants' decision to enroll in Nursing Assistant training. Navigators made some efforts to introduce participants to other entry-level career options in healthcare, including Medical Office training, Phlebotomy, work in medical labs, or other direct patient care careers. However, navigators and program leadership reported that participants often chose Nursing Assistant training because it was the most familiar option, as well as one of the quickest ways to full-time employment in the healthcare field.

Program leadership recognized the limitation of Nursing Assistant programs because those jobs are low paying relative to many other healthcare jobs, the hours and work schedules are often taxing on families, and because credits earned from the training typically do not count toward more advanced training programs. However, leadership depended on navigators to make this point to participants, and conversations with navigators suggested variation in their efforts to do so. Moreover, program leadership noted the consequence of the program's consumer-driven approach: "We built it like the WIA system. It is a customer-service model; we are not going to stop people from going to a training if that is what they want."

- ***Navigators directed many participants to prerequisites prior to entry into a healthcare training program.***

Prerequisite course takers included two types: participants with relatively limited prior educational experience who enrolled in foundational training to prepare for Nursing Assistant and other entry-level programs, and participants who enrolled in courses required for advanced healthcare training programs where admission was more competitive (e.g., Licensed Practical Nurse).

Navigators directed participants with limited English proficiency or low basic academic skills to foundational training programs to prepare them for Nursing Assistant or other entry-level training programs. Most often, foundational training courses were held at community colleges; for example, Green River Community College, as described in Exhibit 4-1.

Funding for prerequisites also supported students seeking training in more advanced healthcare occupations. HCA funding was often critical for these students, as WIA, TANF, and other funding sources were less likely to cover prerequisites for longer-term occupational

training programs. These participants were primarily fulfilling prerequisites for nursing programs.

- ***Health Careers for All created cohort programs in community colleges to address specific participant needs.***

Cohorts were a central component of the HCA training strategy. Two cohort programs operated during the PACE study period (the foundational cohort and nursing cohort described in Exhibit 4-1). Conversations with program leadership suggest the cohorts were implemented as planned.

The foundational training offered contextualized learning—basic skills taught concurrently with introductory healthcare courses—and provided a designated support instructor. The advanced-level nursing training provided entry into a competitive program that participants might not have been able to get into on their own. It also provided a pathway for some of the early program participants who had earned entry-level credentials through an ITA and were seeking further education. In the nursing cohort, the WDC and TRAC worked with the college to bundle prerequisites with nursing courses to improve momentum and success during the prerequisite phase and so students were guaranteed entrance into the college's nursing program if they met its entrance requirements.

- ***Over time, the program developed workshops to help participants prepare for exams for professional certification and advanced-level training.***

Along with individualized employment- and training-related services, the program also offered targeted workshops for participants with specific career interests. Program leadership added these over time to help students pass certification exams required to secure employment.

HCA piloted a workshop in spring 2014 for those applying to Licensed Practical Nurse programs; it was offered again in fall 2014. In addition to covering the application process and materials needed for various programs, the workshop prepared students for the Test of Essential Academic Skills, the nursing program entrance exam.

The program also added a navigator-led workshop to prepare Nursing Assistant course completers for the national Nursing Assistant certification exam. Program leadership added this workshop because Nursing Assistant was the most common training for participants, there were often long wait times between training completion and exam dates, and they wanted to support high pass rates. Leadership wanted to maintain participant engagement and to keep skills and knowledge fresh while participants waited for their exam. The sessions covered the exam's two components—written/oral communication and practical skills. In the academic sessions, held weekly or bi-weekly, the navigator discussed test-taking strategies, explained the rationale behind the topic areas and questions covered on the exam, and allowed students the chance to practice test questions. In the skills sessions, students practiced a subset of the skills covered on the exam, using a timer to simulate the test conditions. This portion of the workshop was held in a community college lab every other week.

4.4. Implementation of Employment Supports

Though some HCA participants enrolled in a second training after completing an initial one, most sought employment in the healthcare field. Originally, navigators provided employment services. But just before the start of random assignment, leadership changed the model and hired dedicated job developers to provide post-training employment services. Additionally, the program added other additional supports to improve employment outcomes for participants. The next section summarizes key findings on post-training services and how they evolved over the course of implementation.

- ***The program added job developers to expand supports available to participants.***

The WDC did not originally include job developers in its program design. Instead, navigators provided all employment services. In this way, participants had a single and consistent point of contact throughout the program. However, two years into the program and prior to the start of random assignment, the WDC added a job developer position. This was in response to increasing navigator caseloads and a concern that navigators could not adequately support participants in training if they were also focused on helping completers find and retain jobs. Additionally, the program hired two new navigators who had little prior experience with the healthcare field, and leadership believed participants working with them could benefit from extra job search assistance.

The job developers had few relationships in the healthcare industry prior to the start of the HCA program, so they had to build these relationships over the course of the grant period. This included making cold calls to local employers, leveraging existing relationships from job development colleagues in WorkSource Centers as well as those established by HCA navigators, and attending industry events.

- ***The division of labor between navigators and job developers was not clear.***

When the first HCA job developer was hired, the division of responsibilities between the navigators and the new position was not clear. HCA managers and navigators reported that some of the more experienced navigators, including those who had worked in healthcare professions themselves, continued to provide employment assistance and job search services to participants directly. Navigators with fewer connections to the healthcare field were more likely to refer participants to the job developer.

Both navigators and job developers provided individualized employment assistance to participants, usually beginning shortly before the end of training. The assistance included job search supports such as discussing interview etiquette, refining resumes and cover letters, and identifying job leads. The job developers also facilitated direct connections to employers, including referrals for interviews.

The job developers typically worked with participants one-on-one and assessed their employment objectives. This could happen at any stage of the program—sometimes during training, if a participant needed a temporary job not necessarily in the healthcare field to meet ongoing financial obligations, and sometimes once training was completed.

In addition to individualized services, the job developers also held job clubs every other week. The agenda depended on which participants showed up and what they needed assistance with at the time, but included working on resumes and developing job readiness skills.

- ***Program management required all new participants to meet with a job developer prior to starting training, after engagement with job developers initially was low.***

Fewer participants than expected engaged with job developers in the first year of the study. Staff believed that participants were not aware of the job developers and the services they offered. The WDC and TRAC saw requiring a meeting with a job developer prior to enrollment in training as a way to make participants aware of available employment support, focus attention on employment as the long-term goal of the intervention, and solidify a relationship between individual participants and job developers. The job developers reported that the early meetings with participants built a relationship and identified barriers to employment earlier.

4.5. Education and Training Participation Patterns

One of HCA's central objectives was to increase participation in and completion of healthcare occupational training. This section describes treatment group members' participation in occupational training and in prerequisite programs. The analysis reports the overall level of participation, completion rates, and the duration of participation over the 18-month follow-up period.

- ***More than 82 percent of treatment group members enrolled in some type of training program, either a prerequisite to occupational training or a healthcare training program.***

Exhibit 4-2 shows the proportion of all treatment group members who achieved key training milestones in the HCA program. Eighty-two percent of treatment group members enrolled in at least one training: 45 percent of treatment group members started with a prerequisite course (most commonly for Registered Nurse); 26 percent continued from the prerequisite to occupational training; and 38 percent enrolled directly in occupational training.

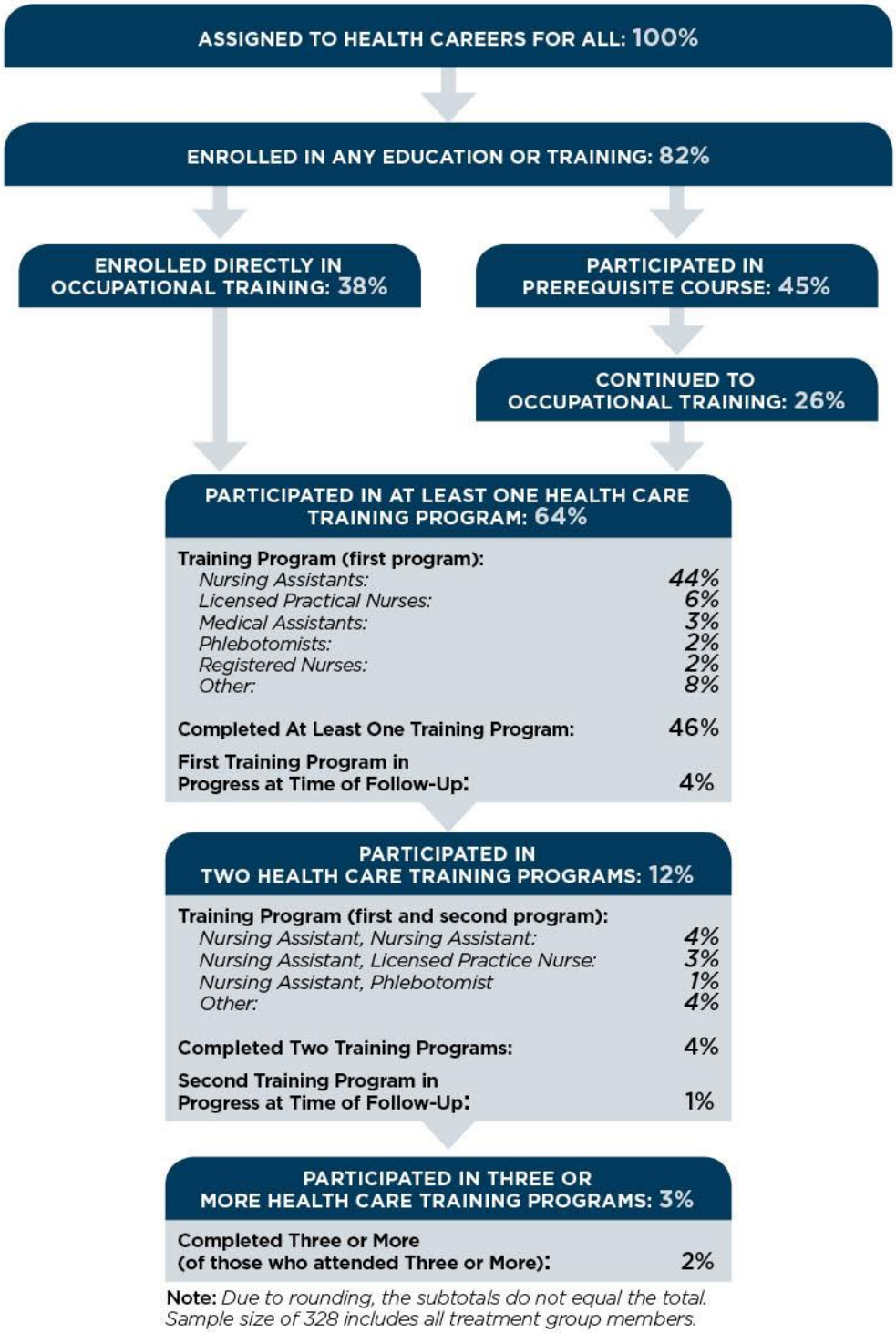
The result was that 64 percent of treatment group members participated in at least one *healthcare* training program within the 18-month follow-up period. Twelve percent participated in at least two healthcare training programs, and three percent participated in three or more training programs.

The remaining 18 percent did not participate in any training after they were randomly assigned to the treatment group. From other analyses (not shown), most of them (87 percent) did attend at least one career counseling session, which might include the work readiness workshops or one-on-one job search assistance. Conversations with navigators suggested that at least some participants, rather than enroll in any course, sought employment immediately due to financial pressures.

The follow-up survey inquired about possible reasons study participants did not engage in occupational training. Treatment group members who did not enroll in training cited as "very

important" the following reasons for not enrolling: not enough time due to work, not enough time due to family responsibilities, and did not think they could get enough financial aid.

Exhibit 4-2. Participation in and Completion of Education and Training among Treatment Group Members within an 18-Month Follow-Up Period



Note: *Due to rounding, the subtotals do not equal the total. Sample size of 328 includes all treatment group members.*

- ***Among those who participated in healthcare training, more than two-thirds enrolled in Nursing Assistant training.***

Of treatment group members who enrolled in training, 69 percent selected a Nursing Assistant course (that is, 44 percent of the 64 percent who enrolled in at least one occupational training shown in Exhibit 4-2). As shown in Exhibit 4-3, the majority of these Nursing Assistant program participants (77 percent) completed the training within the 18-month follow-up period. The next most common training program was Licensed Practical Nurse (nine percent of the 64 percent who enrolled in at least one occupational training). As shown in Exhibit 4-3, 14 percent of these participants completed the training within the 18-month follow-up period and many of the six percent of participants still enrolled at the end of the follow-up period were attending this program.

- ***Few participants enrolled in multiple training programs.***

Exhibit 4-3 shows that of participants who got any training (the 82 percent in Exhibit 4-2), 15 percent attended two healthcare programs, and 35 percent of them completed the two programs. For those who attended two programs, the combination of programs varied—although it typically included Nursing Assistant as one of the two. Four percent of participants attended two Nursing Assistant programs, some because they did not complete it the first time. Very few (four percent) participants attended three training programs.[40]

- ***Participants most commonly attended Nursing Assistant training at private, non-accredited institutions.***

Exhibit 4-3 shows that 53 percent of participants who attended training did so at a private school. However, a substantial portion (42 percent) attended training at a community or technical college. About five percent attended training at a four-year college. Completion rates were higher for those who attended private schools (72 percent) compared with community or technical colleges (48 percent) or four-year colleges (27 percent).

The variation in completion rates reflects the different programs selected by participants at these types of schools. Most participants who attended private schools (98 percent, not shown) enrolled in a short-term Nursing Assistant program, whereas participants at community colleges were more likely to enroll in the longer-term Licensed Practical Nurse program (24 percent, not shown).

[40] These data do not capture those students who may have returned to take prerequisite courses following their initial entry-level training.

Exhibit 4-3. Type of Program Attended, Completion Rates, and Average Length of Stay among Treatment Group Members Participating in the Health Careers for All Program over an 18-Month Follow-Up Period

Program(s) Attended	Participation Rate	Completion Rate	Average Length of Stay in Training (months)	In Progress at Follow-Up
Attended One Healthcare Program	58.5%	66%	2.6	6%
Nursing Assistant	32.4%	77%	1.4	
Licensed Practical Nurse	4.0%	14%	6.4	
Medical Assistant	1.4%	40%	3.5	
Medical Office Clerk/Secretary/Specialist	0.9%	33%	4.7	
Phlebotomist	0.9%	100%	2.5	
Registered Nurse	0.9%	33%	7.1	
Other	18.1%	63%	3.6	
Attended Two Healthcare Programs	14.8%	35%	4.5	18%
Nursing Assistant, Nursing Assistant	3.7%	46%	3.7	
Nursing Assistant, Licensed Practical Nurse	2.3%	0%	4.0	
Nursing Assistant, Phlebotomist	1.1%	50%	5.1	
Other	7.6%	38%	4.9	
Attended Three or More Healthcare Programs	4.1%	45%	3.9	9%
Type of Institution Attended (first program)				
Private, Non-degree granting	52.6%	72%	1.6	0%
Community or Technical College	42.1%	48%	4.6	18%
4-Year College	5.3%	27%	7.4	9%

SOURCE: HPOG Performance Reporting System

Note: Sample size is 270 and includes all students who participated in any training.
Completion rate and length of stay are calculated for those who attended the specified program.
Individual items may not sum to totals because students can attend more than one training.

- ***The average length of stay in Health Careers for All training was 5.4 months.***

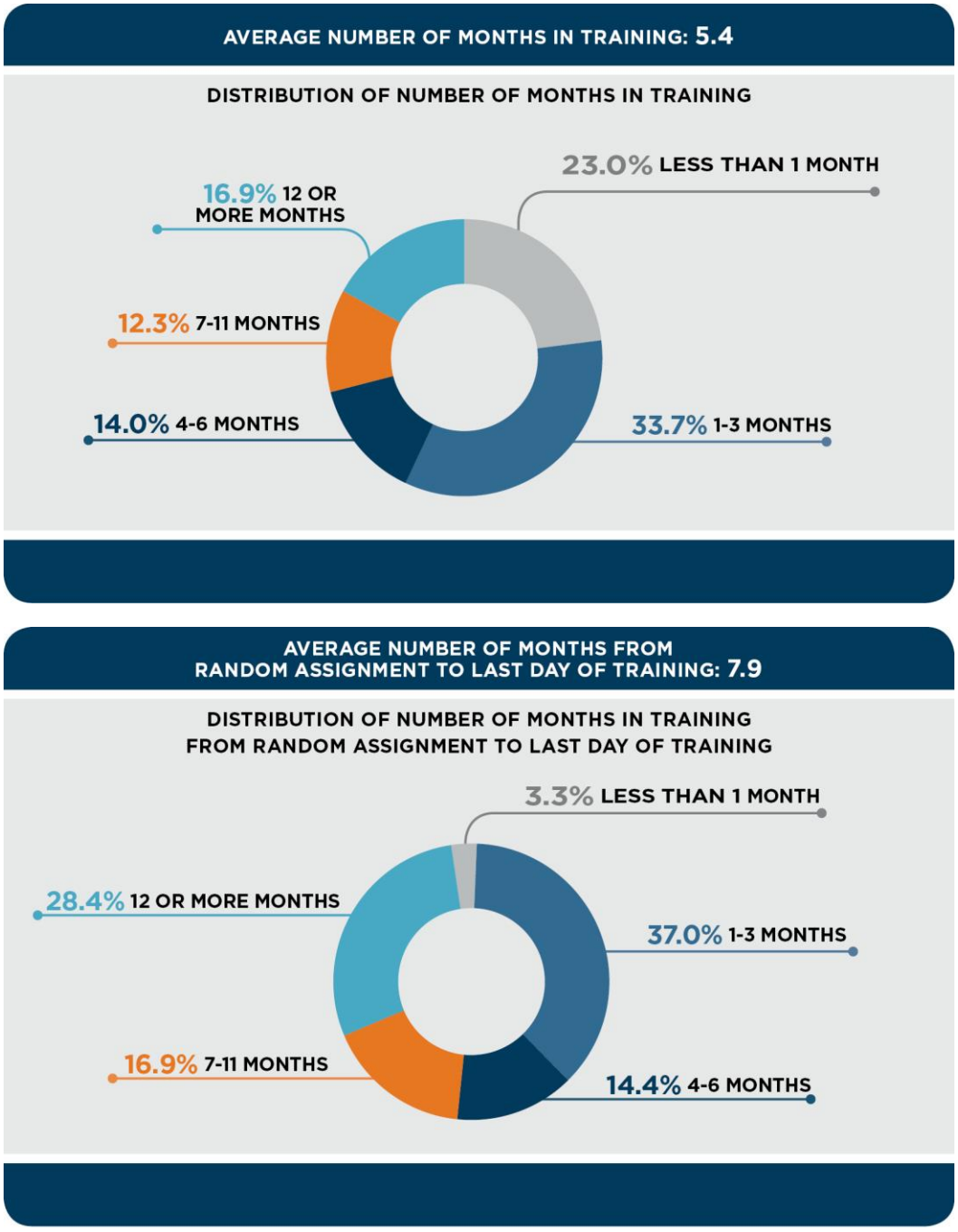
Exhibit 4-4 shows the average number of months in training for those who attended a training program. Treatment group members spent on average 5.4 months in training.[41] The average length of stay was 1.4 months for Nursing Assistant training and 6.4 months for Licensed Practical Nurse training, for those who attended one program (see Exhibit 4-3). This average, however, may slightly underestimate time in training as a subset of participants were still in training at the end of the follow-up period, and some participants combined those trainings with others as second trainings attended.

Exhibit 4-4 also shows the average number of months from the date of the participant's random assignment to the last day of training. This average length of stay, including the period

[41] Although not shown, eight percent of participants in any program were still enrolled at follow-up. This is the share of participants who had their length of stay truncated to 18 months, but for whom the research team observed in the data some participation after 18 months.

between random assignment and the start of training, was 7.9 months. As with the average months in training, duration varied widely. The largest share of participants (37 percent) spent three or fewer months leading up to and in training. More than one-quarter (28 percent) spent 12 or more months.

Exhibit 4-4. Length of Stay in Training within 18-Month Follow-Up Period



NOTE: Sample size of 270 includes all treatment group members who participated in any training program

- ***Participation patterns were similar for TANF and non-TANF recipients.***

Exhibit 4-5 shows training participation rates by receipt of public assistance or welfare at the time of study enrollment. Treatment group members who were TANF recipients participated in training activities at a similar rate to those who were not TANF recipients (82 and 84 percent, respectively). Among treatment group members, TANF recipients were more likely to enroll in a Nursing Assistant program (50 percent) compared with non–TANF recipients (40 percent), though the completion rates for both groups were almost identical. TANF recipients did have a shorter average length of stay in training (4.4 months) compared with non–TANF recipients (6.0 months), potentially because more of them enrolled in Nursing Assistant training programs.

Exhibit 4-5. Participation by Receipt of Public Assistance or Welfare at Time of Enrollment

	Household Receiving Public Assistance or Welfare at Time of Enrollment	Household Not Receiving Public Assistance or Welfare at Time of Enrollment
Participated in Any Training	82%	84%
Prerequisite Courses Only	*17%*	*19%*
Prerequisite Courses and Healthcare Training	*26%*	*27%*
Healthcare Training Only	*38%*	*38%*
Enrolled in Nursing Assistant as First Training	50%	40%
Completed at least One Healthcare Training	47%	48%
Length of Stay in Training	4.4 mos.	6.0 mos.

SOURCE: HPOG Performance Reporting System

4.6. Impact on Receipt of Services

This section focuses on the degree to which HCA produced an impact on receipt of education and training, supportive services, and employment services among the treatment group members. An implication of the career pathways framework is that any improvements in the main outcomes (discussed in Chapter 5) will result primarily from impacts on service receipt.

These analyses expand the previous analysis in Section 4.5 that described treatment group experiences based on HPOG Performance Reporting System (PRS) records.[42] The analyses in this section use data from the PACE follow-up survey to compare the program experiences of treatment and control group members to gain insight into how any differences in those

[42] For the treatment group, the self-reported information in the follow-up survey differs from program administrative data recorded in PRS. The survey data capture information on services that the treatment group (and control group) sought on their own outside of the Health Careers for All program. However, the survey data are subject to recall error.

experiences might lead to impacts on more distant outcomes.[43] Specifically, the following section discusses impacts on education or training receipt after random assignment (Exhibit 4-7) and receipt of advising and employment services (Exhibit 4-8). Exhibit 4-6 below briefly explains how to read impact tables.

Exhibit 4-6. How to Read Impact Tables

Exhibit 4-7 and Exhibit 4-8 in this chapter, as well as exhibits in Chapter 5, list the outcome measure in the analysis in the left-most column (**Outcome**), with the unit of that outcome in parentheses (e.g., "(%)").

The **Treatment Group** column 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). The **Impact** column lists the difference between the treatment and control group means.

There are several common standards for judging statistical significance—that is, for judging the strength of the evidence that the observed difference between the treatment and control group values is the result of that program element and not the result of chance. The smaller the *p*-value, the stronger the evidence. In this report, tests are considered statistically significant and highlighted in tables if the *p*-value is less than or equal to 0.10. Tests with smaller *p*-values are separately flagged:

- * for 0.10
- ** for 0.05
- *** for 0.01

The second-to-last column is **Standard Error**, a measure of uncertainty in the estimated impact that reflects both chance variation due to randomization and any measurement error. The final column, ***p*-Value**, is the calculated probability that the observed difference between the treatment and control group values is due to chance.

Outcomes in *italics* apply to a subset of survey respondents (e.g., those who attended education/training). These estimates are not impacts, but unadjusted, non-experimental comparisons.

- ***Health Careers for All had a statistically significant impact on its participants' receipt of education and training, though participation was also high among control group members.***

Exhibit 4-7 shows statistically significant impacts on self-reported receipt of education and training activities. The program produced an eight percentage point difference in the proportion of treatment group members who reported receiving training in any field during the 18-month follow-up period compared with the control group (73 percent versus 65 percent). There was an 11 percentage point difference between the groups in receipt of healthcare-related training (61 percent versus 50 percent).

[43] The survey response rate was 72 percent (75 percent in the treatment group and 68 percent in the control group). These proportions represent the percentage of treatment and control group members who reported during the follow-up survey that they participated in an education/training program. For the treatment group, this self-reported value differs from program data, likely due to variation in the data source (e.g., self-reported measures are subject to recall error). See Appendix B for information on statistical adjustments to reduce the risk of response.

Exhibit 4-7. Receipt of Education and Training since Random Assignment

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	*p*-Value
General Aspects of Education & Training Receipt					
Received education or training since random assignment (%)					
In any field	72.8	65.0	+7.7*	4.2	.068
In a healthcare occupation	61.2	49.9	11.3**	4.5	.013
Since random assignment, ever attended (%)[a]					
Two-year college	25.8	28.6	–2.8	4.2	.508
Four-year college	36.0	30.4	+5.6	4.3	.193
Private, non-degree granting school	22.4	8.0	+14.3***	3.3	<.001
Adult high school/education[b]	0.0	1.3	na	na	na
Community/nonprofit organization	3.3	1.4	+1.9	1.3	.136
Other	0.8	3.0	–2.1	1.5	.164
Time spent at school and work at first place attended (%)					
Full-time school and full-time work	*7.1*	*6.0*	*+1.1*	*2.8*	*.691*
Full-time school with no or part-time work	*60.6*	*57.7*	*+3.0*	*5.6*	*.594*
Part-time school and full-time work	*8.3*	*11.6*	*–3.3*	*3.5*	*.346*
Part-time school with no or part-time work	*23.9*	*24.8*	*–0.8*	*4.9*	*.864*
Views of classes at first place attended (%)					
Strongly agrees relevant to life/career [c]	*64.8*	*68.3*	*–3.5*	*5.3*	*.511*
Used active learning methods most/all of the time[d]	*56.5*	*60.2*	*–3.6*	*5.5*	*.509*
Perceived strong emphasis on community at first place of instruction (%)	*15.0*	*9.8*	*+5.2*	*3.6*	*.159*
Basic Skills Instruction and Tests					
Received basic skills instruction since random assignment (%)					
Academic skills	18.6	19.1	–0.5	3.8	.895
English as a Second Language	11.8	10.7	+1.2	3.1	.710
Took college placement exam (%)					
English	32.0	38.3	–6.3	4.5	.159
Math	28.0	35.9	–7.9*	4.4	.071
Passed college placement exam (%)					
English	25.2	29.2	–4.0	4.2	.341
Math	17.7	23.5	–5.8	3.9	.135
Life Skills Instruction					
Received life skills instruction since random assignment (%)	15.8	12.8	+3.0	3.2	.340
Sample size (full survey sample)	246	220			

SOURCE: Abt Associates calculations based on data from the PACE short-term follow-up survey.

NOTES: Where not italicized, outcomes apply to the full survey sample, and impact estimates are fully experimental and regression-adjusted. Outcomes in *italics* apply to subset of survey respondents (e.g., those who attended education or training)—for these estimates, between-group differences are unadjusted, non-experimental comparisons.

Statistical significance levels, based on two-tailed *t*-tests tests of differences between research groups, are summarized as follows: *** statistically significant at the one percent level; ** at the five percent level; * at the 10 percent level.

[a] Defined by applying the Integrated Postsecondary Education Data System (IPEDS) school classification to the reported school name. Many schools that primarily act as two-year institutions (e.g., Green River Community College, Highline Community College) provide at least one four-year degree, and as such are classified by IPEDS as four-year schools.

[b] No members of the treatment group attended an adult high school and only three members of the control group did so. These numbers are too small for reliable estimation of the effect of the program on this outcome.

[c] Percentages who either strongly agreed that classes were relevant to career interests or who strongly disagreed that classes did not relate to anything else in life.

[d] Refers to first place of instruction if went to more than one place. Gives the average percentage who described classes as involving each of a series of active learning approaches at least often, or at least most of the time (items used different scales).

- ***More treatment group members enrolled in private, non-degree granting schools.***

Treatment group members were significantly more likely than control group members to attend private schools (22 percent versus eight percent). Though the percentage of treatment group participants self-reporting attendance at such an institution is lower than what is reflected in PRS data for these individuals (see Section 4.5), the trend is the same.

- ***Health Careers for All did not produce impacts on other aspects of education and training.***

There were no statistically significant differences between the treatment and control groups in terms of attendance at two- or four-year colleges. There was also no difference between the two groups in terms of the proportion reporting receipt of basic skills instruction.

Among those who enrolled in education or training, there were no statistically significant differences between the two groups in full- or part-time enrollment and whether they combined work and training (see *italicized* rows). Similarly, Exhibit 4-7 also shows that there are no statistically significant differences between the treatment and control groups in terms of reports of receiving life skills instruction.

Significantly more control group members reported taking a math college placement exam (36 percent versus 28 percent of treatment group members), though there was no difference between the two groups in the percentage indicating that they passed either a math or English placement exam.

- ***Health Careers for All produced few impacts on receipt of supportive and employment services.***

Exhibit 4-8 shows impacts on receipt of supportive services and employment services reported by treatment and control group members. Despite the HCA program's emphasis on navigator supports before and during training, there were few impacts. HCA produced an eight percentage point increase in participants' reports of receiving job search or placement services. However, there was no statistically significant difference in receipt of career counseling or help arranging supports for school, work, or family.

Exhibit 4-8. Receipt of Varying Supports since Random Assignment

Outcome	Treatment Group	Control Group	Impact (Difference)	Standard Error	*p*-Value
Received assistance from any organization since random assignment (%)					
Career counseling	35.0	32.6	+2.5	4.4	.576
Help arranging supports for school/work/family	33.2	28.1	+5.1	4.2	.227
Job search or placement	42.2	34.2	+8.0*	4.5	.080
Received supports at first place of instruction attended (%)					
Career counseling	*25.0*	*29.6*	*–4.6*	*5.0*	*.358*
Academic advising	*48.1*	*57.3*	*–9.2*	*5.6*	*.104*
Financial aid advising	*31.9*	*41.1*	*–9.2**	*5.4*	*.091*
Tutoring	*34.7*	*43.0*	*–8.3*	*5.5*	*.128*
Help arranging supports for school/work	*25.1*	*19.5*	*+5.6*	*4.7*	*.233*
Job search/placement assistance	*36.4*	*32.1*	*+4.4*	*5.4*	*.416*
Received financial assistance at first place of instruction (%) [a]					
Grant/scholarship	*62.2*	*71.1*	*–8.9**	*5.3*	*.092*
Loan	*12.7*	*11.4*	*+1.3*	*3.6*	*.722*
Cited financial support as challenge in enrollment or persistence (%)b	66.6	59.8	+6.8	4.5	.128
Offered opportunities for related work experience as part of training at first place of instruction (%)					
Clinical internship	*49.4*	*48.3*	*+1.1*	*5.6*	*.846*
Visits to local employer	*19.4*	*22.8*	*–3.4*	*4.6*	*.466*
Work-study job	*19.4*	*27.3*	*–7.9*	*4.8*	*.101*
Apprenticeship	*9.7*	*6.8*	*+2.8*	*3.0*	*.354*
Any related work experience (including other)	*64.0*	*68.7*	*-4.7*	*5.3*	*.372*
Sample size (full survey sample)	246	220			

SOURCE: Abt Associates calculations based on data from the PACE short-term follow-up survey.

NOTES: Where not italicized, outcomes apply to the full survey sample, and impact estimates are fully experimental and regression-adjusted. Outcomes in *italics* apply to subset of survey respondents (e.g., those who attended education or training)—for these estimates, between-group differences are unadjusted, non-experimental comparisons. Statistical significance levels, based on two-tailed *t*-tests tests of differences between research groups, are summarized as follows: *** statistically significant at the one percent level; ** at the five percent level; * at the 10 percent level.

[a] Reported receiving grant or loan to help cover either tuition/school expenses or living expenses.

[b] Cited financial support challenges as a reason for non-enrollment or leaving school or as a difficulty while attending school.

- ***Among those who attended training, there were few significant differences between treatment and control group members in the supports received there.***

For those who attended training, the survey asked about the types of supports received at their first place of instruction.[44] There were few statistically significant differences between the two groups. There was no statistically significant difference in receipt of career counseling services, academic advising, tutoring, help arranging supports for school or work, or job search and placement. This may be because, aside from cohorts, control group members had the ability to enroll in the same or comparable support programs as treatment group members. Alternatively, the lack of an impact may be because treatment group members received these services from their navigator, and so were less likely to seek them out from training providers.

Exhibit 4-8 shows, though, that control group members were significantly more likely than treatment group members to receive financial aid advising at their first place of instruction (41 percent versus 32 percent). One possible explanation is that participation in HCA may have reduced the need for treatment group members to seek such advising, because the program assured their tuition was fully funded. This guaranteed financial support may also explain why treatment group members were significantly less likely to receive a grant or scholarship at their first place of instruction (62 percent) than were control group members (71 percent).

4.7. Summary of Implementation Findings

The Health Careers for All program components were implemented largely as designed. The site met its HPOG enrollment targets, both overall and among TANF recipients.

More than 80 percent of program participants enrolled in training. Program staff reported that most participants came to the program with an occupation in mind and many had already identified a preferred training provider. Because the program had a consumer choice philosophy, navigators generally did not try to persuade participants otherwise. Navigator assistance focused on helping participants confirm their career choice and enroll in the associated training program. Navigator interaction with participants decreased following enrollment, though contact was typically more frequent with participants enrolled in cohorts. The program initially struggled to engage participants in post-training employment supports through job developers and made adjustments accordingly.

Most participants enrolled in entry-level training. Of those enrolling in at least one healthcare training program, 69 percent enrolled in Nursing Assistant programs. Among these participants, most enrolled in private, non-accredited institutions. A smaller subset of those enrolling in healthcare training enrolled in various nursing programs (13 percent). Almost half of the participants enrolled in prerequisite training, with more than half of these individuals progressing to occupational training.

[44] Treatment-control differences on these outcomes come from comparisons of nonequivalent groups, given the different shares of the treatment and control groups that attended training. As such, these are descriptive contrasts as opposed to causal impacts.

Despite high levels of overall engagement in training programs, few treatment group members pursued advanced-level training, and a very small percentage of those completing entry-level training returned for more advanced training within the 18-month follow-up period.

HCA had a statistically significant impact on participants' receipt of training, though participation was also high among control group members. This may be related to the timing of labor market and training program research, which occurred prior to random assignment and was thus completed by all applicants, regardless of group assignment. There was an eight percentage point impact on enrollment in training in any field, and an 11 percentage point impact on enrollment in training for a healthcare occupation. The program also produced a 14 percentage point impact on enrollment in private, non-accredited institutions. The program did not produce impacts on other aspects of training, though there was an eight percentage point impact on receipt of job search or placement services.

5. Early Impacts of the Health Careers for All Program

This chapter reports estimates of the Health Careers for All program's early impacts on educational attainment, career progress, and a set of non-economic outcomes. The estimates cover impacts over an 18-month period after random assignment for 466 survey respondents.[45,46] The chapter begins by describing hypothesized impacts and outcomes analyzed. Subsequent sections present findings on education and training, early career progress, and non-economic outcomes, respectively. In each, subsections distinguish among confirmatory, secondary, and exploratory analyses.

5.1. Key Hypotheses and Outcomes

The program's designers sought to promote completion of training in growing healthcare fields through guidance by navigators in selecting programs and ongoing support in completing them, financial support for occupational training and other supports, and job search assistance. In the theory of change (see Exhibit 2-1), these program components are expected to have positive effects on intermediate outcomes—such as career knowledge, work-related skills, self-esteem and other psycho-social factors, and resources for coping with life challenges that can interfere with school and work. The ultimate aims (main outcomes) were to increase educational attainment, in order to increase career-track employment and earnings in healthcare-sector jobs, leading to improved economic and individual well-being.

The research team classified outcomes as confirmatory, secondary, or exploratory, according to whether they addressed confirmatory, secondary, or exploratory hypotheses about HCA impacts (see Chapter 2). Exhibit 5-1 lists and describes each outcome.[47]

The **confirmatory outcome** in the HCA early analyses is **earning a credential**.[48] Earning a credential was considered to be a key necessary step before finding employment in the healthcare field. Given that the program primarily emphasized short-term training, earning a credential was possible to attain within the 18-month follow-up period.

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[45] Interviews were generally conducted between 15 and 22 months following random assignment with an average lag of 17.82 months. Thus, the team uses an 18-month follow-up period.

[46] The survey response rate was 72 percent (75 percent in the treatment group and 68 percent in the control group); see Appendix B for information on statistical adjustments to reduce the risk of response bias.

[47] More details on the definitions of these outcomes are given in Section B.1 of Appendix B.

[48] This includes certificates, diplomas, and degrees from colleges and other postsecondary schools, as well as professional, state or industry certifications, licenses, or other credentials issued by government regulatory agencies, unions, other professional and trade associations, and businesses. Credentials in fields other than healthcare were also counted since members of the control group could earn credentials in other fields that might be just as useful toward achieving the confirmatory outcome at 36 months of increased earnings. Credentials issued by authorities other than schools were included because of the rapid rise in recent decades of requirements to have these in order to work. According to Kleiner (2015), the share of U.S. workers required to have a license from a state government in order to perform their jobs legally rose from less than 5 percent in 1950 to nearly 29 percent in 2008.

Exhibit 5-1. Outcomes in the Early Impact Analysis

Outcome	Description	Data Source	Sample Size	
			Treatment	Control
Confirmatory (Confirmatory Hypothesis)				
Earned Credential	Earning any occupational credential from any source (college, other training institution, or licensing authority)	PACE short-term follow-up survey	246	220
Secondary (Secondary Hypotheses)				
Education		PACE short-term follow-up survey		
Hours of College Occupational Training	Self-reported hours of non-credit occupational training (excludes ESL and basic education classes) at colleges plus 15 hours for every earned credit in regular college classes. Colleges include all degree-granting institutions including non-profit and for-profit two- and four-year institutions		237	211
Hours of Occupational Training at Another Education/Training Institution	Self-reported hours of non-credit occupational training (excludes ESL and basic education classes) at non degree-granting institutions plus 15 hours for every earned credit in regular college classes		246	220
Hours of Occupational Training at Any Education/Training Institution	Self-reported hours of non-credit occupational training (excludes ESL and basic education classes) at any institution (college or non-degree granting) plus 15 hours for every earned credit in regular college classes		237	211
Credential Receipt by Location	Credential by the type of granting authority (college, other training provider, or licensing/certification body)		246	220
Self-Assessed Career Development		PACE short-term follow-up survey		
Perceived Career Progress	Three-item scale of self-assessed career progress; response categories range from 1=strongly disagree to 4=strongly agree		246	217
Confidence in Career Knowledge	Seven-item scale of self-assessed confidence in career knowledge; response categories range from 1=strongly disagree to 4=strongly agree		246	220
Access to Career Supports	Six-item scale counting number of types of career-supportive relationships in workforce and education settings; response categories range from 1=no to 2=yes		246	219

Outcome	Description	Data Source	Sample Size	
			Treatment	Control
Career Pathways Employment		PACE short-term follow-up survey		
Employment at or above a Specified Wage	Earning $13 or more per hour[a]		239	212
Employment in Job Requiring Mid-Level Skills	Whether employed in a job requiring calibrated set of skills based on federal standards[b]		245	216
Working in a Healthcare Occupation	Whether employed in one of several healthcare occupational categories (does not include working in the healthcare industry in an occupation other than healthcare such as security or reception)		245	216
Exploratory (Exploratory Hypotheses)				
Psycho-Social Skills		PACE short-term follow-up survey		
Grit	Eight-item scale capturing self-perceived persistence and determination; response categories range from 1=strongly disagree to 4=strongly agree		246	220
Academic Self-Confidence	Twelve-item scale; response categories range from 1=strongly disagree to 6=strongly agree		246	220
Core Self-Evaluation	Twelve-item scale; response categories range from 1=strongly disagree to 4=strongly agree		246	220
Social Belonging in School	Five-item scale capturing sense of belonging; response categories range from 1=strongly disagree to 4=strongly agree		246	220
Life Stressors		PACE short-term follow-up survey		
Financial Hardship	Two-item scale capturing financial hardship, reported as either an inability to pay rent/mortgage or not enough money to make ends meet; response categories are either 0=no or 1=yes		245	215
Life Challenges	Seven-item scale capturing life challenges that interfere with school, work, or family responsibilities; response categories range from 1=never to 5=very often		246	219
Perceived Stress	Four-item scale capturing perceived stress; response categories range from 1=never to 4=very often		246	218

Outcome	Description	Data Source	Sample Size	
			Treatment	Control
Family Structure		PACE short-term follow-up survey		
Living with spouse	Does not include living with unmarried partner. Wording gender neutral		244	218
Had child since random assignment or currently pregnant	Analysis restricted to responses by women		201	191

NOTES: For more detail on these outcomes, see Appendix B.

[a] Threshold selected because it was close to the 60th percentile of hourly wages among employed control group members.

[b] Skill levels based on the federal O*NET system with thresholds targeted to PACE program target occupations. Occupational categories were coded for PACE by Census Bureau staff from standard open-ended survey items.

Secondary outcomes capture additional early effects suggested by the HCA logic model. These included increased hours of occupational training; earning a credential from a college; earning a credential from some other training provider; receipt of occupational certifications and licenses from authorities such as state agencies and boards; self-assessed career development; and career pathways employment. As is true with the confirmatory hypothesis, these outcomes have an expected direction of impact.

Finally, **exploratory outcomes** provide additional evidence on program impacts, generally for outcomes of interest with some, though less certain, expectation for effects. For these outcomes, the research team was concerned that either (1) the direction of impacts could be negative in the short term even though positive impacts would be expected over the long term or (2) that the instrumentation might provide biased estimates. More specifically, the team expected the navigation, financial and other supports, and employment assistance to eventually have positive effects on measures of a variety of psycho-social skills and measures of family structure (e.g., living with a spouse) and a negative effect on life stressors. Those positive effects, however, may not be seen by the time of the first follow-up at 18 months, either because of the limited time lapse and/or because of concerns about reference biases in the measurements of effects, as discussed below in Section 5.4.

5.2. Impacts on Educational Attainment

This section presents impact estimates for key measures of educational progress. To highlight the confirmatory test's special role as an indicator of whether early impacts are on track, this section first assesses findings on the confirmatory outcome and then examines findings for secondary and exploratory outcomes.

- ***There is no evidence that Health Careers for All had a positive effect on earning a credential (confirmatory hypothesis).***

As Exhibit 5-2 shows, 49 percent of treatment group members earned a credential from any source during the 18 months after randomization, which is not significantly different than the rate achieved by control group members (45 percent). The lack of impact on credentials was somewhat surprising because, as described in Chapter 4, treatment group members were significantly more likely than control group members to report receiving education or training,

in particular education or training specific to healthcare. However, about 29 percent of students in both groups were still enrolled in training at the time of the follow-up survey (not shown), so it might be too early to see the full impact of HCA on credentials earned.

Exhibit 5-2. Early Impacts on Education/Training Outcomes (Confirmatory and Secondary Hypotheses)

Outcome	Treatment Group	Control Group	Difference	Standard Error	*p*-Value
Primary Outcome					
Earned a Credential (from any source)(%)	48.7	45.0	3.7	4.6	.212
Secondary Outcomes					
Total Hours of Occupational Training at (average)					
A college	289.6	296.0	–6.4	53.3	.548
Another education/training institution	54.2	17.1	37.1 ***	11.0	<.001
Any education/training institution	345.8	313.9	31.9	53.5	.275
Earned a Credential from (%)					
A college	12.3	14.2	–1.9	3.2	.722
Another education/training institution	17.9	8.1	9.8 ***	3.1	<.001
A licensing/certification body	42.1	38.5	3.6	4.4	.208
Sample Size[a]	246	220			

SOURCE: Abt Associates calculations based on PACE early follow-up survey.

NOTES: Statistical significance levels, based on one-tailed *t*-tests tests of differences between research groups, are summarized as follows: *** statistically significant at the one-percent level; ** at the five-percent level; * at the 10-percent level.

[a] Sample sizes are based on the subsample who responded to the PACE follow-up survey. Average lag from random assignment to interview was 18 months but ranged from 15 to 22 months.

- ***At non-college institutions, treatment group members attended significantly more hours of training and earned significantly more credentials than the control group did (secondary hypothesis).***

The second panel in Exhibit 5-2 shows that treatment and control group members at non-college institutions had significantly different experiences. Non-college institutions include providers that are not degree granting.

Treatment group members at training institutions other than colleges attended more hours of occupational training compared with control group members. Based on additional analyses, this difference of more than 200 percent (54 hours versus 17 hours) in relative terms seems to be about equally due to more treatment group members than control group members attending such places (see Exhibit 4-7) and to higher numbers of hours among those who ever attended them (not shown). Combining enrollments at all training institutions other than colleges, HCA increased any enrollment in such places by 11.4 percentage points, from 13.2 percent to 24.6 percent (not shown). That is a relative increase of 86 percent for the treatment group compared to what they would have experienced without access to the program. This implies that hours per student who ever attended such institutions increased from 124 hours to 215

hours, an increase of 73 percent.[49] As discussed in Chapter 4, most of the increase in attendance at non-college institutions induced by the program was at private schools (see Exhibit 4-7).

HCA produced no significant difference in the number of occupational training hours at a college, defined as any degree-granting institution, whether public, private nonprofit, or private, non-degree granting. Nor did it produce a significant difference in the average occupational training hours at any institution.

The last panel of Exhibit 5-2 shows impacts on credentials earned from various possible issuing authorities. The program produced no boost in credentials earned from colleges or from licensing/certification bodies. On the other hand, the program did produce an impact on earning credentials from education-training institutions other than colleges. This might not be seen as a net benefit if the credentials from other institutions displaced credentials earned from colleges, but credentials earned from colleges appeared to be fairly stable.

5.3. Impacts on Early Career Progress (Secondary Hypotheses)

This section presents impact estimates for six measures of early career progress. Three indicators capture different aspects of self-assessed progress toward career goals: perceived career progress, confidence in career knowledge, and access to career supports. Three indicators describe employment outcomes: working in a job that pays at least $13 per hour, working in a job requiring at least mid-level skills, and working in a healthcare occupation.

- ***Health Careers for All produced positive impacts on self-assessed progress toward career goals.***

The estimates in the upper panel of Exhibit 5-3 show that HCA positively impacted two of the three indicators of self-assessed career development: perceived career progress and access to career supports. The impact on perceived career progress, an increase of 0.24 point on a four-point scale, was significant at the one percent level. The 0.08 point impact on access to career supports, a measure of the types of people who are potential role models, mentors, and references, was also significant at the one percent level. These differences amount to effect size impacts of 0.33 and 0.25, respectively, indicating that about 63 percent of treatment group members feel more positive about their career progress than does the median member of the control group and about 60 percent of treatment group members have more career supports

[49] The figures of 17.1 hours and 54.2 hours per student in Exhibit 5-2 represent averaging in values of zero for everyone who never attended such institutions. To get hours per attendee, the research team divided each group's average total hours by its fraction ever attending (not shown). For example, for the control group: 17.1 hours / 13.8 percent enrolled = 123.9 hours per control group member.

than does the median member of the control group.[50] The next impact report will assess whether these personal assessments translate into more tangible evidence of career progress.

Exhibit 5-3. Early Impacts on Selected Career Outcomes (Secondary Hypotheses)

Outcome	Treatment Group	Control Group	Difference	Standard Error	Effect Size	*p*-Value
Self-Assessed Career Development (average)						
Perceived Career Progress[a]	3.60	3.36	0.24 ***	0.07	0.33	<.001
Confidence in Career Knowledge[b]	3.43	3.36	0.06	0.05	0.11	.232
Access to Career Supports[c]	1.70	1.62	0.08 ***	0.03	0.25	.009
Career Pathways Employment (%)						
Working in a Job Paying $13/Hour or More[d]	27.6	25.7	1.8	4.1	0.04	.656
Working in a Job Requiring at Least Mid-Level Skills	9.3	13.5	-4.2	3.1	-0.12	.179
Working in a Healthcare Occupation						
As self-classified[e]	45.4	36.4	9.0 **	4.3	0.38	.018
As classified per federal standards[f]	27.0	26.6	0.4	4.0	0.01	.916
Sample Size[g]	246	220				

SOURCE: Abt Associates calculations based on data from the PACE early follow-up survey.

NOTES: Statistical significance levels, based on one-tailed *t*-tests tests of differences between research groups, are summarized as follows: *** statistically significant at the one percent level; ** at the five percent level; * at the 10 percent level. Effect size calculated as the estimated effect, divided by the pooled population standard deviation (Cohen, 1988).

[a] Three-item scale tapping self-assessed career progress; response categories range from 1=strongly disagree to 4=strongly agree.

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

[c] Seven-item scale tapping self-assessed access to career supports; response categories range from 1=no to 2=yes.

[d] Assessed wage distributions for employed control group members to establish this cut-point at approximately the 60th percentile of wages.

[e] Direct responses to "Is this occupation in the field of healthcare?"

[f] Subjects were asked to name their occupation, list their usual job activities, and name their job title. Based on these, professional coders at the U.S. Census Bureau then assigned Standard Occupation Classification (SOC) codes to the jobs.

[g] Sample sizes are based on the subsample who responded to the PACE follow-up survey.

- ***Health Careers for All produced minimal impacts on employment.***

The second panel of Exhibit 5-3 shows three indicators of career pathways employment. Only one indicator—working in a healthcare occupation, as assessed by the survey respondent—shows a statistically significant impact. Treatment group members were nine percentage points more likely than control group members to report that they were working in a healthcare occupation at the time of the survey (45 percent versus 36 percent), which is significant at the five percent level. However, when federal standards are used to classify healthcare

[50] As proposed by Cohen (1988), the "effect size" is the effect divided by the population standard deviation. Cohen referred to effect sizes of 0.2 and 0.5 as "small" and "medium," respectively, when looking across many interventions.

occupations, rather than self-reports, the difference disappears. This discrepancy is likely explained by how federal standards classify Nursing Assistants.[51]

HCA had no impact on the proportion of treatment versus control group members who reported working in a job paying at least $13 per hour or the proportion working in a job that required at least mid-level skills. The 36-month follow-up report will estimate whether there are positive effects on earnings.

5.4. Impacts on Psycho-Social Skills, Life Stressors, and Other Outcomes (Exploratory Hypotheses)

The positive impacts on self-assessed career progress make it plausible to expect positive effects of HCA on psycho-social skills associated with college success. Although the measures of psycho-social skills used in the follow-up survey and reported here are the result of substantial testing, psychometricians have recently raised concerns about their use in program evaluations. Specifically, individuals in a program that emphasizes these skills may come to have higher expectations of their performance than do control group members, and thus the treatment group members may rate the same level of performance more negatively than do the control group (Duckworth and Yeager 2015). This potential for measurement biases injected some uncertainty about the direction of expected effects, such that the study treats these analyses as exploratory (i.e., subject to two-sided tests).

Results show little evidence that the program had an impact on indices of psycho-social skills (Exhibit 5-4, top panel). Of the four tested skills, only core self-evaluation showed any significant impact. The difference was significant at the 10 percent level. There was no significant difference between the treatment and control groups in grit, academic self-confidence, or sense of social belonging in school.

The second panel in Exhibit 5-4 shows three indicators of stress. The results show that treatment group members were significantly more likely to report financial hardship than control group members. This finding was significant at the 10 percent level. There were no significant differences between the groups in reported life challenges and perceived stress.

[51] The evaluation team researched this classification inconsistency. The primary difference between the two estimates involves Personal Care Aides. The Bureau of Labor Statistics and the Office of Management and Budget do not consider Personal Care Aides to be healthcare workers, but most such workers do. The government classifies Certified Nursing Assistants as Nursing Assistants (and thus healthcare workers) if their duties focus on medications or bandaging, but as Personal Care Aides (and thus not healthcare workers) if their duties focus on assistance with activities of daily living such as eating and personal hygiene. Among the 62 personal care aides in the study sample, 43 (or 69 percent) incorrectly classified themselves as healthcare workers. Also, among the 63 study participants who misclassified themselves as healthcare workers, 43 (or 68 percent) were personal care aides.

Exhibit 5-4. Early Impacts on Other Outcomes (Exploratory Hypotheses)

Outcome	Treatment Group	Control Group	Difference		Standard Error	Effect Size	*p*-Value
Indices of Psycho-Social Skills (average)							
Grit[a]	3.21	3.16	0.05		0.04	0.11	.241
Academic Self-Confidence[b]	4.88	4.86	0.02		0.07	0.03	.790
Core Self-Evaluation[c]	3.40	3.32	0.08	*	0.04	0.17	.073
Social Belonging in School[d]	3.39	3.43	–0.03		0.05	–0.06	.519
Indices of Life Stressors (average)							
Financial Hardship[e]	0.75	0.67	0.08	*	0.04	0.17	.061
Life Challenges[f]	1.74	1.67	0.07		0.05	0.12	.201
Perceived Stress[g]	2.15	2.22	–0.07		0.07	–0.09	.322
Family Structure (%)							
Living with spouse	32.6	28.2	4.4		3.3	0.13	.187
Had child since random assignment or currently pregnant (women only)	13.8	16.1	–2.2		3.5	–0.07	.528
Sample Size[h]	246	220					

SOURCE: Abt Associates calculations based on data from the PACE short-term follow-up survey.

NOTES: Statistical significance levels, based on two-tailed *t*-tests tests of differences between research groups, are summarized as follows: ** at the five-percent level; * at the 10-percent level.

[a] Eight-item scale capturing persistence and determination; response categories range from 1=strongly disagree to 4=strongly agree.

[b] Twelve-item scale capturing academic self-confidence; response categories range from 1=strongly disagree to 6=strongly agree.

[c] Twelve-item scale capturing core self-evaluation; response categories range from 1=strongly disagree to 4=strongly agree.

[d] Five-item scale capturing sense of belonging; response categories range from 1=strongly disagree to 4=strongly agree.

[e] One-item scale capturing financial hardship, reported as inability to pay rent/mortgage or not enough money to make ends meet; response categories range from 0=no to 1=yes.

[f] Seven-item scale capturing life challenges that interfere with school, work, or family responsibilities; response categories range from 1=never to 5=very often.

[g] Four-item scale capturing perceived stress; response categories range from 1=almost never to 4=very often.

[h] Sample sizes in this row apply to all table rows except for recent child bearing. For that row, the sample sizes are 202 and 192.

To explore why the program might lead to more financial hardship, the research team looked separately at the two measures of hardship that were combined to form the indicator (inability to pay rent or a mortgage and not enough money to make ends meet), as well as at the receipt of income supports. These analyses found treatment group members significantly more likely to report having missed a rent payment in the last year and significantly less likely to be receiving TANF benefits at the time of the follow-up survey than were control group members (not shown). It is not clear why treatment group members would be more disadvantaged financially than the control group. Health Careers for All paid the tuition of the treatment members but not the control group members. Moreover, discussions with program staff and community partners for the implementation study indicated that HCA was designed to align with TANF program rules, and thus should not have caused any participants to lose benefits.

Finally, the last panel of Exhibit 5-4 shows changes in family structure. There were no significant differences between the treatment and control group in the proportion living with a spouse, nor in the share who had had a child since random assignment or who were currently pregnant.

5.5. Summary of Impact Findings

In the 18 months after random assignment, HCA did not produce a significant positive impact on the confirmatory outcome of credentials earned from any source. Nor did the program produce positive impacts on hours of college training or earning credentials from colleges. However, it did produce positive effects on five secondary outcomes: 37 more hours of training at training institutions other than colleges, a 10-percentage point boost in the percent of study members earning credentials from training institutions other than colleges, a nine-percentage point boost in the percent of study members employed in what they perceived to be healthcare jobs, an effect size of 0.33 on perceived career progress and an effect size of 0.25 on access to career supports.

6. Conclusions

The WDC leadership saw Health Careers for All as an opportunity to increase healthcare employment options for low-income, low-skilled individuals in King County, including TANF recipients. This chapter summarizes early findings on service receipt and educational impacts 18 months following random assignment. It then describes areas of longer term analyses.

6.1. Summary of Key Findings

The Health Careers for All program combined navigation and case management services, access to a variety of healthcare occupational training tuition-free, financial assistance during training, and employment services. Program leadership speculated that the package of services would increase treatment group members' enrollment in and completion of occupational training certificates in high-growth, high-demand healthcare fields as compared with a control group that would have to seek services and funding on its own.

According to survey data collected approximately 18 months following random assignment, HCA had impacts on service receipt. Treatment group members were significantly more likely than control group members to receive:

- education or training in any field (73 percent versus 65 percent);
- education or training in a healthcare occupation (61 percent versus 50 percent); and
- job search or placement services (42 percent versus 34 percent).

Treatment group members were significantly more likely to have attended a private school than were the control group.

Although there were some impacts on service receipt, HCA produced few impacts on educational and career-track employment outcomes. There were no statistically significant differences between the treatment and control groups in earning a credential from any source, the confirmatory outcome in the analysis of HCA at 18 months. The treatment group did have significantly more hours of occupational training at an education or training institution other than a college (e.g., a private school) and earned significantly more credentials from that type of provider.

The program did produce positive impacts in two areas of self-assessed career development (perceived career progress and access to career supports), as well as in one area of career pathways employment (working in a healthcare occupation, as self-classified in the survey).[52]

There are a few possible reasons for minimal impacts on outcomes. One is implementation problems; that is, services were not implemented as planned. Another is that the control group could access very similar services on their own.

[52] Classification per federal standards produced no impacts.

Given that the program boosted initial enrollment in training but did not lead to higher rates of credential attainment, the question arises as to why. Implementation study findings suggest that the program was delivered largely as planned. HCA supported training opportunities for participants with occupational interests that ranged from career exploration and entry-level positions to advanced training. Navigators were available to provide continuous support, from application through employment. The program added job developers to expand employment supports available to participants and to free up navigators to focus on participants prior to and during training. In practice, the roles were not clearly delineated. Additionally, participants did not utilize the job development services initially.

Interviews with staff and analysis of administrative and survey data showed that the program adhered to a consumer choice design. Navigators reported that applicants had preferences for an occupational training and training provider that generally did not change based on their research into labor markets and training providers or their conversations with navigators. Most participants selected Nursing Assistant training and attended private schools. Administrative and survey data confirm this pattern.

Finally, the HCA program succeeded in recruiting and enrolling a large share of TANF recipients. More than 40 percent of study participants were receiving public assistance or welfare at the time they entered the study. Program management built and maintained relationships with TANF staff, at the leadership and case manager levels, to design program processes that would align with both TANF program requirements and the broader goals of HCA. 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.

Given that the implementation study suggests that HCA was largely implemented as intended, there are likely other possible reasons for the lack of effects on credential attainment. Another possibility is that the minimal impacts are due to the wide array of education and employment supports available in King County, which effectively limited the service contrast between the treatment and control groups. The impact study estimated the effects of HCA above what is available in the community.

Analysis of survey data found few differences in service receipt between the two groups. Although treatment group members were significantly more likely to receive any education and training since random assignment, the difference was just 7.7 points higher than the control group. And though significantly more treatment group members enrolled in training for a healthcare occupation, half of control group members did so, as well. This low contrast in enrollment rates makes it very difficult to detect effects on credential attainment.

There were no significant differences in receipt of basic skills education. Both groups reported similar receipt of career counseling and help arranging supports for school, work, or family. Similar proportions cited financial support as a challenge to enrollment or persistence in education or training.

One possible factor behind the minimal impacts was the program's timing of the labor market and training options research assignment. Navigators began working with individuals at the

application stage, prior to random assignment. The primary assistance related to this stage was a career research requirement. Thus, treatment and control group members both conducted occupational and employment research with the assistance of a navigator. Control group members, in essence, had a road map for training services to execute.

Another factor was the availability of training funding and employment supports from other sources, namely TANF and WIA. As noted above, program leadership emphasized recruitment of TANF recipients. TANF recipients assigned to the control group returned to their TANF case managers and could theoretically access other sources of training and employment supports. The target population—individuals with income below 175 percent of the federal poverty line or income above that threshold but with extenuating circumstances (e.g., disability)—likely could qualify for WIA-supported intensive services or training. In some instances, navigators were co-located in the WorkSource Centers, where control group members would access WIA-supported training. Finally, the overall structure of HCA resembled the WIA-supported training system, one focused on consumer choice within the confines of labor market demand.

6.2. Implication for Longer-Term Findings

This initial report on Health Careers for All focuses on the implementation of the program and its early effects on the education and training outcomes of treatment group members. Based on the career pathways framework and the HCA logic model, the expectation was that if the program was to achieve its goals, by 18 months after random assignment there would be significant positive effects on credential attainment (confirmatory hypothesis). The positive effects found on enrollment in occupational training and the lack of effects on earning a credential provide an unclear picture of the program at this early stage.

This report focused on education and training impacts, with only limited analysis of career-track employment. Though fewer treatment group participants enrolled in more advanced training programs, the inclusion in the sample of an Licensed Practical Nurse cohort suggests that there may be longer term effects on earnings coming.

The next PACE report on HCA will cover a 36-month follow-up period for the full research sample. It will provide a more systematic look at impacts on employment for a period when any such impacts can be expected to emerge. That report will examine a broad variety of employment outcomes, including average employment and earnings over successive follow-up quarters, and job characteristics (e.g., occupation, hourly wage rate, receipt of fringe benefits, career progress). Thus, the report will begin to answer whether the training experiences of HCA treatment group members will translate into economic gains in the workplace in the longer term. In addition, estimation of the long-term effects of all PACE programs on earnings at approximately 72 months after random assignment is the subject of the Career Pathways Long-Term Outcomes project.

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