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Descriptive Implementation and Outcome Findings for Health Profession Opportunity Grants 1.0: Findings from the National Implementation Evaluation in **Pathways to Careers in Health Care**

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4
Descriptive Implementation and Outcome Findings for Health Profession Opportunity Grants 1.0

Findings from the National Implementation Evaluation

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Grantees of the Health Profession Opportunity Grants (HPOG) program design and implement programs to provide eligible participants with education, occupational training, and employment and support services to help them train for and find jobs in a variety of health care professions. Chapter 3 describes in detail the multifaceted HPOG program research agenda developed and managed by the Office of Planning, Research, and Evaluation of the Administration for Children and Families (ACF) of the U.S. Department of Health and Human Services. The National Implementation Evaluation (NIE) was a core part of the Office of Planning, Research, and Evaluation research strategy. It focused on the 27 nontribal grantees receiving five-year grants in 2010 in a first round of HPOG awards (HPOG 1.0)[1] and was organized around three major research questions:

1) How are health professions training programs being implemented across the grantee sites?

2) What changes to the service delivery system are associated with program implementation?
3) What individual-level outcomes occur?

The NIE addressed the research questions in three related studies, respectively: the Descriptive Implementation Study, the Systems Study, and the Outcome Study. This chapter summarizes the findings of the Descriptive Implementation and Outcome Studies.[2] Combined, these two studies present a comprehensive picture of HPOG 1.0 design, implementation, and outcomes at the national level, as well as for variations at the local program level and for important participant subgroups. The NIE studies did not estimate impacts.[3] Major findings from these studies include the following:

- Twenty-seven nontribal grantees implemented 49 distinct local HPOG programs, each offering participants access to a range of health care training and financial, academic, and personal support services.
- Over the five-year grant period, HPOG 1.0 nontribal grantees served more than 36,000 individuals and engaged most of them in health care occupational training (88 percent by 18 months after enrollment). Most participants were women, a majority of whom were unmarried with children; more than two-thirds were from racial or ethnic minorities. At the time of enrollment, about 30 percent were in school and 41 percent were working.[4]
- By 36 months after enrollment, 78 percent of participants who began training had completed at least one health care course of training, spending an average of 3.5 months in training.
- At 15 months after HPOG enrollment, 73 percent were employed, with 53 percent employed in health care jobs. On average, those employed worked full-time, and those employed in health care jobs had higher hourly wages and better employment benefits than those who had jobs in other sectors.
- Employment and earnings increased through 12 quarters after participants' exit from HPOG, with steeper increases in earlier quarters. Both participants who completed training and those who did not complete it experienced these increases, but employment rates and earnings were higher for those who completed

training (77 percent and $6,433 in the twelfth quarter after completing training, compared to 68 percent and $5,263 for those who did not complete training).

After describing the NIE study design and data collection strategy, this chapter summarizes the major study findings about the design, implementation, and results of HPOG 1.0 in the following order: eligibility criteria and participant characteristics, program content and participant experiences, educational outcomes, employment and earnings outcomes, program and policy implications, and further research. (Unless otherwise noted, HPOG refers to HPOG 1.0.)

STUDY DESIGN, DATA SOURCES, AND ANALYSIS APPROACH

The NIE study was designed to produce a comprehensive description of HPOG implementation and key participant experiences and outcomes aggregated at the national level, as well as accounting for variation at the local program level.

Data Sources

The NIE used a variety of data sources and collection strategies. Principal data sources for its Descriptive Implementation Study were surveys of HPOG grantee representatives, local program management and staff, HPOG partners and stakeholders, and health care employers. These surveys were fielded between November 2013 and April 2014, when HPOG was in its fourth year of implementation. The NIE also used data collected for the HPOG Impact Study through site visits made to programs implemented by 20 of the 27 nontribal grantees.[5]

The NIE Outcome Study used information from the HPOG Performance Reporting System, a participant-tracking and management system in which grantees reported data on participant characteristics, engagement in activities and services, and training and employment outcomes. The study used quarterly wage data from the National Directory of New Hires, a federal administrative database of employer reports to the Unemployment Insurance program. The study also used

data from a 15-month follow-up survey of HPOG participants included in the HPOG Impact Study and the Pathways for Advancing Careers and Education (PACE) Study and a sample of HPOG participants from programs not included in either the HPOG Impact Study or PACE.[6]

UNIT OF ANALYSIS

The primary unit of analysis for most of the Descriptive Implementation Study is the local HPOG program, defined as "a unique set of services, training courses, and personnel" (Werner et al. 2016). The program is the major analytic unit because it is where policy and practice interface directly with participants; it is where all HPOG participants are offered the same range of services and training activities regardless of physical location. HPOG grantees may have funded and supervised one or more programs. For some program design decisions, the unit of analysis is the HPOG grantee, since grantee organizations were responsible for funding and overseeing programs. The Descriptive Implementation Study findings are based largely on measures developed from closed-ended survey questions.

The primary unit of analysis of the Outcome Study is the HPOG participant. In reporting participant characteristics, the study includes all those with records in the Performance Reporting System from September 30, 2010, through the end of the HPOG grant period, September 30, 2015. In reporting HPOG participant experiences and outcomes, the study uses the sample of participants with at least 18 months of experience since enrollment in HPOG. This includes 20,384 participants who enrolled prior to April 1, 2014. The only exception to this is for educational outcomes, where we use a sample of participants with 36 months of experience since enrollment. This includes 8,748 participants who enrolled prior to October 1, 2012. The rationale for focusing on this sample is to report training completion outcomes after a longer period after enrollment. Findings on employment and earnings rely on 12 quarters of postenrollment data from the National Directory of New Hires. Results on the characteristics of jobs held by participants are based on a sample of 4,636 participants responding to the follow-up participant survey that was fielded 15 months after enrollment.

ELIGIBILITY CRITERIA AND PARTICIPANT CHARACTERISTICS

The composition of the HPOG participant pool was largely the result of grantee decisions about eligibility requirements and processes. Those decisions were based on grantee judgments about who among the target population could most benefit from and was likely to succeed in training and subsequent employment in the health care industry. This section summarizes grantee choices of eligibility criteria and the demographic and socioeconomic characteristics of HPOG participants.

HPOG Eligibility

The Funding Opportunity Announcement for HPOG specified that grantees were to serve recipients of TANF and other low-income individuals, but it left grantees to define low-income. In addition to exercising discretion over income eligibility limits, grantees also developed a range of eligibility criteria based on applicants' educational attainment and basic skills ability, criminal background or drug use status, and relevant personal characteristics. In developing eligibility criteria and intake processes for their programs, grantees sought to balance the goal of serving individuals who already had many of the skills needed to succeed in training and jobs in health care with the goal of serving individuals who might need significant investments in basic academic skills and work-related knowledge and behavior.

Income eligibility

All HPOG programs considered TANF recipients to be income eligible.[7] In determining income eligibility for those applicants not receiving TANF cash benefits, programs applied one or more measures of income to a variety of standards. These included some percentage of the federal poverty level (FPL) for a specific household size and income eligibility for one or more other assistance programs. For the programs that used some percentage of the FPL to determine income eligibility, the median program eligibility threshold was 200 percent of FPL, and the eligibility threshold ranged from 150 to 250 percent of FPL.

Educational attainment and basic skills requirements

In setting entry requirements for educational attainment and basic skills, programs had to balance the two goals of 1) helping relatively low-skilled applicants improve in the academic skills they needed to enroll in occupational training and 2) meeting HPOG's performance benchmarks for course completions within the five-year term of the grants. Performance benchmarks for each grantee included targets for the number of participants enrolling in HPOG, the percentage of participants completing training courses, and the percentage of participants entering employment.

On educational attainment, programs were almost evenly split on requiring a high school diploma or its equivalent (49 percent required it, 51 percent did not). In addition, most programs (about 80 percent) set minimal eligibility skill levels for math and reading, with a majority of those programs setting skill levels at the eighth grade or above. Because academic skills requirements could vary somewhat by specific training courses, these eligibility screens helped ensure that the pool of participants interested in a particular track would be prepared for that training or would be provided pretraining activities designed to improve skill levels.

Criminal background and other checks

Largely due to state-level restrictions against employing those with a criminal record or users of illegal drugs in many health care jobs, programs screened applicants for past felonies and misdemeanors and for current drug use. Although most HPOG programs used these checks, programs did not necessarily reject all applicants who failed them. Some programs tried to suggest appropriate training courses and career ladders to applicants who had criminal records. Other HPOG programs helped applicants who had criminal records expunge them or apply for certificates of relief, which would allow those applicants to pursue a wider range of health care training courses.

Personal and behavioral screening

Almost all HPOG programs also assessed applicants' relevant personal and psychosocial qualities. In their application processes, about half of the HPOG programs evaluated applicants' career interests, job

readiness, and motivation. In addition to screening for low-income status, basic skills, and criminal background, most programs used personal interviewing or formal assessment tools to gauge motivation and suitability for health care training and employment. Using these measures, programs made judgments about applicants' suitability for health care training and employment.

Participant Characteristics

HPOG grantees' decisions about eligibility criteria influenced the types of individuals participating in the HPOG programs. Table 4.1 summarizes demographic characteristics for all HPOG participants at program entry who enrolled in the program and consented to participate in research studies.

The majority of participants (88 percent) were female. Equal proportions of participants were white non-Hispanic (37 percent) and black non-Hispanic (37 percent).[8] Participants were generally young, with close to half in their twenties and another 8 percent younger than 20. Eighty-four (84) percent were single (63 percent had never married and the remainder were divorced, widowed, or separated).

Almost two-thirds of participants had dependent children. The majority of participants cared for dependent children. Fewer than 4 percent fell into any of the following groups (not shown in the figure): veterans, people with a disability, foster children, people experiencing homelessness, people with limited English skills, and people with criminal backgrounds.

HPOG served individuals with diverse educational backgrounds, ranging from those who did not complete high school to those with multiple years of college. At program entry, most HPOG participants had no postsecondary education. Six percent had less than a twelfth grade education, 13 percent had a high school equivalency certificate or GED, and 37 percent had a high school diploma. However, more than one-third (38 percent) had some years of college or technical school, and 7 percent had four or more years of college. Most HPOG programs assessed participants at eligibility determination or enroll-

Table 4.1 Demographic and Socioeconomic Characteristics of HPOG Participants at Enrollment

Characteristic	Number of participants	Percentage of participants
Gender		
Male	3,434	12
Female	26,492	88
Race/ethnicity		
White non-Hispanic	10,993	37
Black non-Hispanic	10,857	37
Hispanic/Latino, any race	5,776	20
Asian or Hawaiian, Pacific Islander	973	3
Native American or Alaska Native	206	1
Two or more races, non-Hispanic	778	3
Age		
< 20	2,494	8
20–29	13,578	46
30–39	7,036	24
40–49	4,119	14
50+	2,615	9
Marital status		
Married	4,690	16
Never married	18,082	63
Divorced, widowed, or separated	5,991	21
Dependent children		
Yes	17,823	62
No	10,854	38
Highest educational attainment		
Less than 12th grade	1,736	6
High school equivalency or GED	3,677	13
High school graduate	10,721	37
1–3 years of college/technical school	10,990	38
4 years or more of college	2,050	7
Literacy at 8th grade or higher		
Yes	21,051	85
No	3,657	15
Numeracy at 8th grade or higher		
Yes	17,640	74
No	6,304	26

Table 4.1 (continued)

Characteristic	Number of participants	Percentage of participants
Currently in school		
Yes	8,512	30
No	19,570	70
Currently employed		
Yes	12,175	41
No	17,532	59

NOTE: Sample is all 29,942 HPOG participants who enrolled in HPOG, consented to participate in research, and were in the HPOG Performance Reporting System as of September 30, 2015. Percentages are of nonmissing responses at enrollment.
Missing: Literacy and numeracy are missing in 17 and 20 percent of responses, respectively, which include those participants for whom these skills were not tested at enrollment. For all other characteristics, missing responses range from 0 to 7 percent.
SOURCE: HPOG Performance Reporting System, 2015.

ment for their levels of literacy and numeracy.[9] Of participants who completed these assessments, 15 percent had less than eighth grade literacy skills, and 26 percent had less than eighth grade numeracy skills.

Some participants were in school or working when they started HPOG. Almost one-third of participants (30 percent) were in school at the time of program entry. Forty-one percent were working when they enrolled in the program (15 percent worked in a health care occupation and 16 percent for a health care employer).

HPOG participants had low individual and household incomes, as would be expected given the requirement to serve low-income individuals (see Table 4.2). Almost two-thirds had individual annual incomes of less than $10,000, and almost half were in households with incomes under $10,000. To put these income levels in context, the poverty line in 2014 was $11,670 for a one-person household and $19,790 for a household of three.[10] Fourteen percent of participants were receiving TANF cash assistance at program enrollment, and more than half were receiving SNAP benefits. Almost half were single mothers (44 percent), many of whom were likely eligible or nearly eligible for TANF cash assistance.[11]

Table 4.2 Income and Benefit Receipt of HPOG Participants at Enrollment

Characteristic	Number of participants	Percentage of participants
Individual income ($)		
<10,000	17,980	65
10,000–19,999	6,316	23
20,000–29,999	2,537	9
30,000+	776	3
Missing	2,333	
Household income ($)		
<10,000	12,014	47
10,000–19,999	7,157	28
20,000–29,999	3,857	15
30,000+	2,777	11
Missing	4,137	
Receiving TANF		
Yes	3,973	14
No	24,506	86
Missing	1,463	
Receiving SNAP		
Yes	15,270	53
No	13,597	47
Missing	1,075	

NOTE: SNAP = Supplemental Nutrition Assistance Program. Sample is all 29,942 HPOG participants in the HPOG Performance Reporting System as of September 30, 2015. Percentages are of non-missing responses at enrollment.
Missing: missing responses range from 4 to 14 percent.
SOURCE: HPOG Performance Reporting System, 2015.

HPOG PROGRAM CONTENT AND PARTICIPANT EXPERIENCES

Once enrolled in HPOG, participants had access to a wide range of pretraining and preparatory services; health care training courses; and academic, personal, and financial supports. This section documents

the availability of these program offerings and their use by HPOG participants.

Pretraining Services and Activities Offered

To succeed in health care training courses and jobs, many HPOG participants needed additional preparation in one or more areas, including college preparation skills, knowledge of health care career options, soft skills appropriate for the health care workplace, and basic academic skills to participate productively in health care training. Table 4.3 presents findings on the percentage of programs offering specific pretraining activities and the percentage of participants who engaged in those activities.

The most commonly offered and received pretraining activity was soft skills training (85 percent of programs; 44 percent of participants), which focuses on personal and social skills and behavior appropriate

Table 4.3 Pretraining Activities and Remedial Academic Services Offered and Received by 18 Months after Enrollment

Pretraining activity	Percentage of programs	Percentage of participants
Soft skills training (N = 48)	85	44
Introduction to health care careers (N = 48)	54	31
Prerequisite subject courses (N = 48)	31	13
College skills training (N = 49)	29	8
Any pretraining activity (N = 48)	96	64
Adult basic skills (N = 49)	43	5
High school or pre–high school equivalency classes (N = 49)	43	1
ESL classes (N = 49)	18	1

NOTE: ESL = English as a Second Language. For programs: multiple responses were permitted, and therefore results do not sum to 100 percent. N of programs = 48 to 49. N of participants = 20,384. Missing: 0–1 programs. For participants: samples include participants with at least 18 months of experience since enrollment (enrolled by April 1, 2014) and participants with at least 36 months of experience since enrollment (enrolled by October 1, 2012). Participation in multiple activities is included in multiple rows. N = 20,384 for 18-month sample.

SOURCE: HPOG Grantee survey, 2014, Q8.1; HPOG Performance Reporting System, 2014, 2015.

to the workplace. In HPOG, this included emphasis on how to behave around patients and in health care settings. About half of programs (54 percent) offered introduction to health care career workshops, which were attended by about one-third of participants. These workshops explored the range of jobs in health care, potential career pathways, and combinations of academic training and practical experience needed to enter and move along those pathways. Overall, 96 percent of programs offered some pretraining, and almost two-thirds of participants received a pretraining service.

Compared to the pretraining activities described above, HPOG programs were less likely to include formal basic skills education as part of their programs; very few participants enrolled in basic skills training or English as a Second Language classes. For example, fewer than half of the programs offered adult basic skills education directly (43 percent), and only 5 percent of participants received it. Even fewer programs offered high school or pre–high school equivalency classes or English as a Second Language instruction directly, and only 1 percent of participants received them.

Several factors may have contributed to the relative lack of basic skills and other adult education opportunities provided directly by HPOG programs and taken up by participants. For example, programs may have reduced the need for basic skills training by establishing eligibility criteria that specify minimum grade-level requirements in reading and math. Also, some programs reported that adult basic skills training was readily available in their communities, and they did not need to provide the service in-house.[12] Alternatively, 10 programs (31 percent) indicated they integrated basic skills into some health care training courses (not reflected in basic skills counts in the Performance Reporting System) and may not have offered separate basic skills courses.[13]

Health Care Training Offered and Received

HPOG programs provided many health care training activities, which varied in length and intensity, depending on the requirements of the targeted profession. Some training courses for entry-level positions were as short as two weeks, whereas others, such as training for technical or nursing positions, required commitments of as many as four years. Table 4.4 summarizes the breadth of health care training courses

Table 4.4 Occupational Training Offered and Received by 18 Months after Enrollment

Training	Percentage of programs	Percentage of participants who began training
Nursing aides, orderlies, and attendants	90	34
Medical records and health information technicians	80	10
Medical assistants	78	8
Pharmacy technicians	73	4
Licensed practical and vocational nurses	61	10
Registered nurses	59	10
Diagnostic-related technologists and technicians	59	3
Phlebotomists	57	3
Health care support occupations (all others)	55	2
Emergency medical technicians and paramedics	51	2
Health practitioner support technologists and technicians	45	1
Psychiatric and home health aides	43	6
Physical therapist assistants and aides	39	1
Health technologists and technicians	31	<1
Clinical laboratory technologists and technicians	29	1
Occupational therapy assistants and aides	20	<1
Health diagnosing and treating practitioners	18	<1
Community and social service specialists	14	1
Counselors	8	<1
Other	31	<1

NOTE: For programs: multiple responses were permitted, and therefore results do not sum to 100 percent. The types of training courses listed correspond to Standard Occupational Classifications from the Bureau of Labor Statistics.
N = 49 programs. For participants: samples include participants with at least 18 months of postenrollment experience who began health care training programs. Participants who enrolled in more than one type of training are included in multiple rows. Activities are categorized following Standard Occupational Classifications from the Bureau of Labor Statistics. Although classified in the category of Health Care Support Occupations, phlebotomists and pharmacy technicians are recorded separately from that category given their high rates of participation.
N = 16,942 for the 18-month sample. Missing: 0 programs.
SOURCE: HPOG Performance Reporting System, 2015.

provided across HPOG programs, and among participants who began any course, the percentage who enrolled in specific courses.[14]

Most HPOG participants (83 percent) took part in health care training by 18 months after enrolling in HPOG. Among those, most (34 percent) enrolled in training for nursing aides, orderlies, and attendants. Although most enrolled in training for entry-level positions, including a variety of courses for aides and assistants, 20 percent enrolled in longer-term training for a higher-level position, such as registered nurse (RN; 10 percent) or licensed practical nurse/licensed vocational nurse (LPN/LVN; 10 percent).

As part of their training offerings, many HPOG programs included work-based learning opportunities as a way of teaching and reinforcing clinical skills. Most commonly, this came in the form of a clinical section that was part of a course (92 percent of programs offered at least one such course).[15] Some programs also implemented work-based learning outside formal coursework, the most common of which was work experience assignments or transitional jobs, with 7 percent of HPOG participants engaged by 18 months after enrollment (see Table 4.5). By that same time, 2 percent of participants had engaged in on-the-job training, and less than 1 percent had participated in a job-shadowing activity. Because programs were prohibited from using HPOG funds to subsidize wages or pay stipends to participants, paid work experience and on-the-job training had to be funded by other sources.

HPOG Support Services Offered and Received

Comprehensive support services are an important part of the HPOG program and a key feature of the career pathways framework on which HPOG is modeled. This subsection presents findings about the support services local HPOG programs offered and participants received, including case management, academic and career supports, training-related financial assistance, personal and family supports, and services related to employment and job retention.

Case management, academic, and career supports

Almost all HPOG programs (98 percent) employed case managers, who performed a variety of duties intended to support program retention and completion. In most programs, case managers helped par-

Table 4.5 Participation in Work-Based Learning by 18 Months after Enrollment

Opportunity	Percentage of participants
Work experience or transitional job	7
On-the-job training	2
Job shadowing	<1

NOTE: Samples include participants with at least 18 months of postenrollment experience (enrolled by April 1, 2014) and participants with at least 36 months of postenrollment experience (enrolled by October 1, 2012). Participants receiving multiple types of services are included in multiple rows.
N = 20,384 individuals for the 18-month sample.
SOURCE: HPOG Performance Reporting System, 2015.

ticipants by providing academic and career counseling, connections to needed support services, personal and financial advice and guidance, and help finding employment.[16] HPOG program staff were in contact with participants through a variety of modes, including email and other electronic communication and meetings (individually, in groups, and by telephone). On average, staff were in contact with participants two to three times a month in person in an individual setting.[17] Case management was the most commonly provided support, received by 89 percent of participants within 18 months after enrollment (see Table 4.6).

In addition to case management, the most commonly available support services focused on academic success and career choice. Nearly all programs provided these services in multiple ways, including personal advising and counseling, individual and group tutoring, and career workshops. About two-thirds of participants received academic and career counseling (67 percent), and 18 percent were tutored within 18 months of enrollment. Peer support and/or mentoring were available services in 73 percent of programs and were received by 39 percent of participants. Importantly, 94 percent of participants received some academic or training support within 18 months of enrolling in HPOG.

Training-related financial and resource assistance

A major aspect of HPOG programs' support addressed unmet financial needs that could be a barrier for their target population to enroll in and complete occupational training. All programs offered some form of financial assistance for training-related costs. Importantly, 47 programs

Table 4.6 Support Services Offered and Received by 18 Months after Enrollment

Service	Percentage of programs	Percentage of participants
Case management	98	89
Academic and career counseling	92	67
Tutoring	78	18
Peer support/mentoring activities	73	39
Any academic or training support	–	94

NOTE: For programs: multiple responses were permitted, and therefore results do not sum to 100 percent.
N = 49 programs. Missing: 0 programs. For participants: sample includes participants with at least 18 months of postenrollment experience. N = 20,384 individuals for the 18-month sample.
SOURCE: HPOG Grantee survey, 2014, Q8.15, Q9.8; HPOG Performance Reporting System, 2015.

(96 percent) covered all or part of participants' tuition costs, with about half of all programs (24 programs, 49 percent) covering *all* tuition costs.[18] In addition to providing direct tuition assistance, many programs also relied on other sources of financial assistance for participants. The two most common sources of financial support not funded by HPOG were Pell Grants (40 programs, 82 percent) and Workforce Investment Act Individual Training Accounts (28 programs, 58 percent).[19]

In addition to providing resources to cover tuition, all programs covered the cost of books, licensing and certification fees, and exam preparation fees (see Table 4.7). All but one program (98 percent) covered the cost of uniforms, supplies, and tools.[20] Almost half of all programs (22 programs, 46 percent) offered financial support for computers or other equipment. Of the programs that offered assistance for academic-related expenses, about a third (32 percent or more, depending on the specific expense) did so for all participants without request. Programs most commonly offered—without request—assistance for the cost of books (25 programs, 51 percent).[21]

Personal and family supports

HPOG programs also offered services to participants to address personal and family material needs that might have otherwise interfered with stable training participation and completion. Although most pro-

Table 4.7 Academic Resource Assistance Offered and Received by 18 Months after Enrollment

Service	Percentage of programs	Percentage of participants
Books	100	57
Work/training uniforms, supplies, tools	98	53
Exam/exam prep fees (for licensing/certification)	100	36
Licensing and certification fees	100	33
Computer/technology	46	19
Any training or work-related resource assistance	100	72

NOTE: For programs: multiple responses were permitted, and therefore results do not sum to 100 percent.

N = 49 programs. For participants: samples include participants with at least 18 months of postenrollment experience (enrolled by April 1, 2014) and participants with at least 36 months of postenrollment experience (enrolled by October 1, 2012). Participants receiving multiple types of services are included in multiple rows.

N = 20,384 individuals for the 18-month sample. Missing: 0 programs.

SOURCE: HPOG Grantee survey, 2014, Q9.17; HPOG Performance Reporting System, 2015.

grams offered such services directly—most notably transportation and child care assistance—many referred participants in need to available community resources (see Table 4.8).

More than half of participants (53 percent) received personal and family support services within 18 months of enrollment. Transportation assistance was by far the most commonly received by participants (47 percent). Fewer participants received other personal and family support services from programs, including, for example, child care (8 percent) and help with medical care (8 percent), including assistance accessing health care screenings or physicals required by employers.[22]

Employment assistance and job retention services

To help participants obtain employment related to their training, all HPOG programs provided multiple employment assistance services, including advising on careers and job choices, job search assistance, job readiness workshops, and job retention services (see Table 4.9). Participants most commonly received career counseling and job choices advising from a job coach or career navigator (74 percent). Other employment services included job search and placement assistance (52

Table 4.8 Personal and Family Services and Supports Offered and Received by 18 Months after Enrollment

Service/support	Percentage of programs offering service	Percentage of programs providing service			Percentage of participants receiving service
		Directly only	By referral only	Both directly and by referral	
Transportation assistance	98	79	6	15	47
Child care assistance	92	53	27	20	8
Medical care	73	8	86	6	8
Short-term/temporary housing	73	14	78	8	1
Food assistance (other than SNAP)	73	19	69	11	4
Legal assistance	69	3	97	0	1
Addiction or substance abuse services	67	3	94	3	<1
Family preservation services	57	4	89	7	1
Family engagement services	51	8	88	4	1
Driver's license assistance	49	42	50	8	1
Other housing assistance	49	21	79	0	3
Any personal and family services and supports	–	–	–	–	53

NOTE: For programs: the percentages of programs providing services by service delivery strategy (i.e., directly and/or by referral) are the percentages of all programs providing each specific support service and not the percentages of all programs in the study. N = 49. Missing: 0 programs. For participants: sample includes participants with at least 18 months of postenrollment experience. Participants receiving multiple types of services are included in multiple rows.
N = 20,384 individuals for the 18-month sample.

SOURCE: HPOG Performance Reporting System, 2015; HPOG Grantee survey, 2014, Q9.11.

Table 4.9 Employment Assistance Services Offered and Received by 18 Months after Enrollment

Service	Percentage of programs	Percentage of participants
Advising on career and job choices (N = 49)	100	74
Individual job search assistance (N = 49)	100	52
Job search skills/job-readiness workshops (N = 48)	98	25
Job retention services (N = 49)	94	12

NOTE: For programs: multiple responses were permitted, and therefore results do not sum to 100 percent.
N = 48 to 49. Missing: 0–1 programs. For participants: sample includes participants with at least 18 months of postenrollment experience. Participants receiving multiple types of services are included in multiple rows.
N = 20,384 for the 18-month sample.
SOURCE: HPOG Grantee survey, 2014, Q9.21; HPOG Performance Reporting System, 2015.

percent), job readiness workshops (25 percent), and job retention services (12 percent).

EDUCATIONAL OUTCOMES

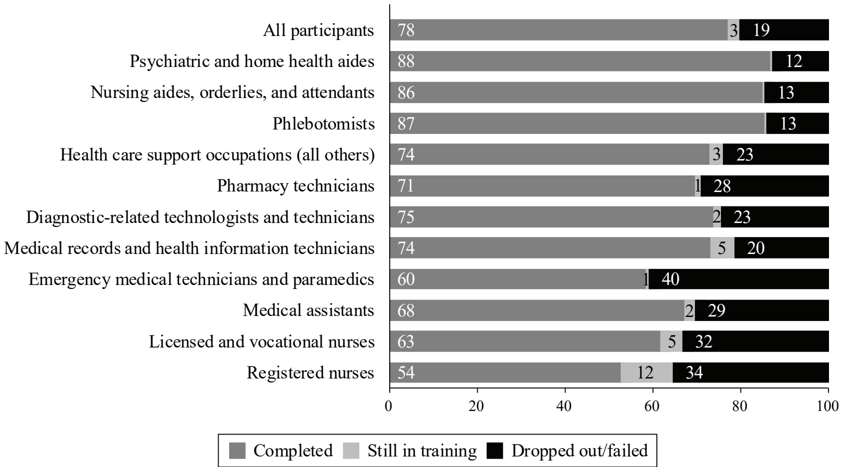
This section presents findings about HPOG participants' educational outcomes, including health care training completion, credentials obtained, and self-assessment of educational progress. In order to allow a longer period of time for training completion, this section relies on the sample of participants who had at least 36 months postenrollment.

Health Care Training Completion

Of participants who engaged in health care training, 78 percent completed at least one course within 36 months of enrollment (see Figure 4.1). An additional 19 percent dropped out, and only 3 percent were still in a training course.[23]

Completion rates of health care training courses varied by the occupation for which participants were training. The highest completion rates were for psychiatric and home health aides (88 percent of those

Figure 4.1 Completion Status by Health Care Occupation Types among HPOG Participants Who Began Training



NOTE: The Bureau of Labor Statistics classifies phlebotomists and pharmacy technicians as health care support occupations, but here they are recorded separately from the rest of the category, given their high rates of participation.

Sample includes participants with at least 36 months of postenrollment experience (enrolled by October 1, 2012) who began health care training programs. Participants are represented in each type of training in which they enrolled. Each bar shows percentages of those who enrolled in the corresponding training program. Percentages may not add up to 100 percent because of rounding. Percentages are of participants with known completion statuses. Less than 1 percent of training programs with end dates are missing completion status. The exhibit shows only health care training programs with more than 100 participants in the 36-month sample. N = 7,653 participants for the 36-month sample.

SOURCE: HPOG Performance Reporting System, 2015.

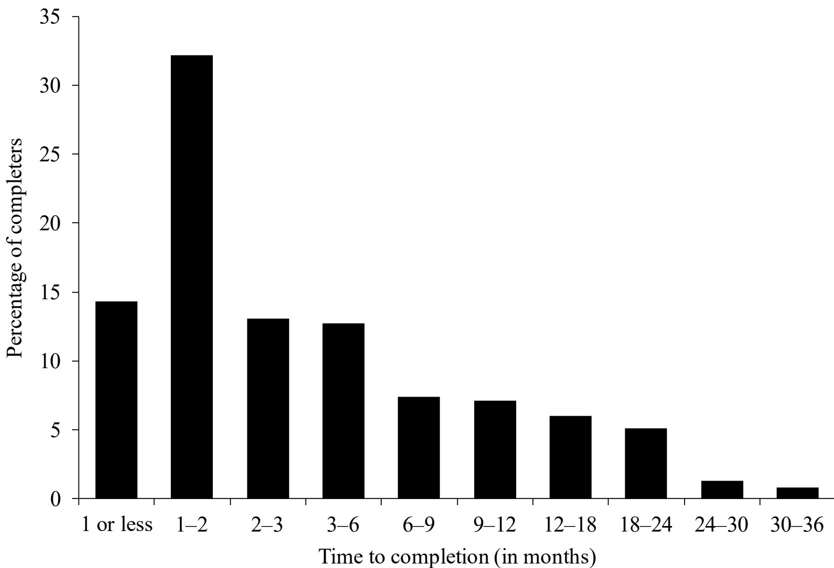
who enrolled completed); phlebotomists (87 percent completed); and nursing aides, orderlies, and attendants (86 percent completed).

The percentages of those who completed courses in 36 months were much lower for LPNs/LVNs (63 percent) and RNs (54 percent). These lower completion rates reflect both higher dropout rates (32 percent for LPNs/LVNs and 34 percent for RNs compared with 19 percent overall) and higher rates of participants still in training (5 percent for LPNs/LVNs and 12 percent for RNs compared with 3 percent overall), given the longer time needed to complete these nursing training courses.

The majority of HPOG participants who completed health care training were in relatively short-term training courses (i.e., six months or less).[24] Figure 4.2 shows the distribution of time spent in health care training. Most participants were in training for a relatively short period, with 72 percent of participants completing training in six months or less and 46 percent in two months or less. Participants who completed a training course within 36 months after enrolling had an average training length of 5.3 months and a median length of 3.0 months.

The length of time participants spent in a particular training course varied significantly by training occupation (see Table 4.10). Participants typically completed more quickly training for occupations that led to entry-level positions for lower-wage jobs. For example, participants spent an average of 1.8 months training for jobs as psychiatric and

Figure 4.2 Time Spent in Health Care Training by HPOG Participants Who Had Completed a Health Care Training Course



NOTE: Sample includes participants with at least 36 months of postenrollment experience (enrolled by October 1, 2012) who began and completed health care training programs. Participants who enrolled in more than one type of training course are included in the means for each corresponding column. N = 5,974.
SOURCE: HPOG Performance Reporting System, 2015.

Table 4.10 Time to Complete HPOG Health Care Occupational Training

Occupation	Time to complete in months (mean)
Psychiatric and home health aides (N = 529)	1.8
Nursing aides, orderlies, and attendants (N = 3,559)	2.1
Phlebotomists (N = 351)	3.8
Pharmacy technicians (N = 183)	4.2
Emergency medical technicians and paramedics (N = 105)	5.3
Diagnostic-related technologists and technicians (N = 253)	5.6
Health care support occupations (all others) (N = 145)	5.9
Medical records and health information technicians (N = 788)	6.0
Medical assistants (N = 496)	8.9
Licensed and vocational nurses (N = 709)	12.6
Registered nurses (N = 455)	15.2

NOTE: Samples include participants with at least 36 months of postenrollment experience (enrolled by October 1, 2012) who began and completed health care training programs. Participants who enrolled in more than one type of training course are included in the means for each corresponding row.
N = 5,974.
SOURCE: HPOG Performance Reporting System, 2015.

home health aides; 2.1 months for jobs as nursing aides, orderlies, and attendants; and 3.8 months for jobs as phlebotomists—all occupations with relatively high training completion rates.

Other training courses took longer to complete. Participants took more than 15 months to complete training for jobs as RNs, and those in LPN/LVN training reported spending almost 13 months on average to complete.[25]

Participation in and Completion of Multiple Health Care Training Courses

The career pathway framework posits that after completing occupational training students may advance by taking additional training courses, sometimes immediately and sometimes after a period of employment. Most programs gave participants the flexibility to enroll in additional training after completing a first course.[26] Twenty-one percent of HPOG participants who had completed one course within the

36 months after enrollment enrolled in another. The completion rate for those additional courses was 71 percent.

The most common training courses followed by additional trainings were shorter term, such as courses for nursing aides, orderlies, and attendants (a category that includes certified nursing assistant [CNA] training); medical records and health information technicians; and phlebotomists. For example, among the participants who completed CNA training and began a second course, relatively few engaged in higher-level training in nursing, with 8 percent beginning LPN/LVN training and 6 percent beginning RN training. Most of the participants who completed a nursing assistant training enrolled in another relatively short-term training also in the nursing assistant occupational category, which could be training to gain additional certifications beyond a CNA, such as to administer intravenous medication.

Receipt of Certifications, Licenses, or Degrees

A primary goal of HPOG is for participants to receive credentials recognized by health care employers. They might include employer-recognized third-party occupational certifications or licenses, as well as postsecondary degrees. About 44 percent of participants who completed at least one health care training course within 36 months of enrollment received a regulatory license or third-party certification. The percentage of participants obtaining a license or certification varied by the training course occupation. Variation across occupations reflects that not all occupations require or confer third-party certifications; for some occupations, requirements for certifications vary by locality.

About 9 percent of participants received an associate's, bachelor's, or master's degree within 36 months of enrollment. The majority of degrees earned (87 percent) were associate's degrees. Two occupational training courses accounted for most of the degrees received: RNs and LPNs/LVNs made up almost two-thirds (63 percent) of the degrees received.

Participant Self-Assessment of Educational Progress

HPOG programs had the goal of training participants for stable, well-paying jobs in career pathways in health care. HPOG participants

were asked in a baseline survey at enrollment about their educational aspirations and then responded to a similar survey question 15 months after enrollment. Table 4.11 presents results on the changes in goals after participation in HPOG.[27]

At 15 months after program enrollment, most HPOG participants expected to attain a postsecondary degree, with the largest number aiming for a bachelor's degree or higher. Compared with their educa-

Table 4.11 Goals for Educational Attainment

Goal	Percentage at enrollment	Percentage at 15 months after program entry
No additional school	2	n/a
Grades 1–12 (no HS diploma/GED)	n/a	<1
High school diploma	11	5
GED or alternative credential	5	2
Alternative nonacademic credential, including industry-recognized credential, certification of completing vocational training, etc.	15	n/a
Some college credit but less than 1 year	n/a	4
One or more years of college credit but no degree	n/a	4
Associate's degree	22	20
Bachelor's degree or higher	46	59
Refused/don't know	0	5

NOTE: Question at program entry in a baseline information form entered by program staff is "What is the highest level of education the participant eventually expects to complete? (choose one category)." Question in 15-month follow-up survey of HPOG participants reads: "What is the highest level of regular academic education that you eventually expect to complete?" Response categories varied between the two surveys, so some responses are not applicable to each sample (indicated by n/a).

For survey at enrollment, N = 4,282 participants at HPOG grantee programs participating in the HPOG Impact or PACE studies (excludes four programs). Missing for this survey item = 103.

For 15-month follow-up survey of HPOG participants, sample is 4,646 participants across all HPOG programs who enrolled in HPOG between September 1, 2013, and September 30, 2014, and responded to the 15-month follow-up survey of HPOG participants. Missing for this survey item = 0.

SOURCE: Baseline survey at enrollment; 15-month follow-up participant survey of HPOG participants; 15-month follow-up survey of PACE participants.

tional aspirations at enrollment, the percentage of participants with any degree aspirations increased overall (from 68 percent at enrollment to 79 percent).

The 15-month follow-up survey also asked for participants' self-assessment of their educational progress: "Would you say you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with the following statement: I am making progress toward my long-range educational goals?" In response, 87 percent of HPOG participants answered either "strongly agree" or "somewhat agree." Only 5 percent answered "strongly disagree."

EMPLOYMENT AND EARNINGS OUTCOMES

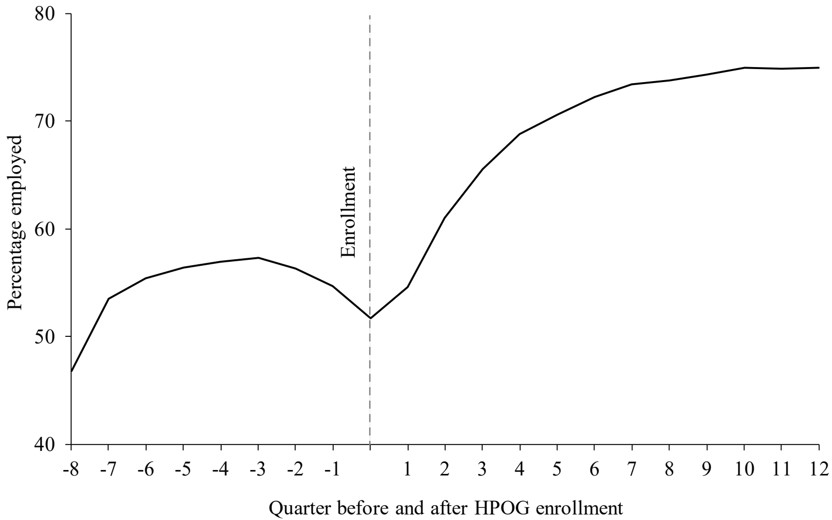
One of HPOG's primary goals is to increase participants' employment in the health care industry. This section presents findings on the quarterly employment and earnings outcomes of HPOG participants, using data from the National Directory of New Hires. Findings are based on as many as three years (12 quarters) of data after enrollment and two years (8 quarters) prior to enrollment. In addition, this section reports findings about the quality of jobs held by HPOG participants at 15 months following enrollment, based on responses to the 15-month follow-up survey of HPOG participants.[28]

Quarterly Employment and Earnings

The percentage of employed HPOG participants in the 18-month sample increased steadily in the quarters after HPOG enrollment, from 52 percent employed in the quarter of enrollment to 75 percent employed three years after enrollment (see Figure 4.3).[29] By the second quarter after enrollment, the percentage employed surpassed any of the eight preenrollment quarters examined. Employment levels continued to rise until the tenth quarter (2.5 years) after enrollment and then remained stable over the study period.[30]

Participant earnings also increased steadily after enrollment (see Figure 4.4). Average earnings of employed participants rose from $3,145 in the quarter of enrollment to $6,208 in the twelfth quarter after

Figure 4.3 Employment of HPOG Participants, by Quarter (18-month sample)



NOTE: Sample includes participants with at least 18 months of postenrollment experience (enrolled by April 1, 2014). N ranges from 18,591 participants eight quarters prior to enrollment, to 19,765 the quarter of enrollment, to 16,502 in the final quarters after enrollment.

SOURCE: National Directory of New Hires.

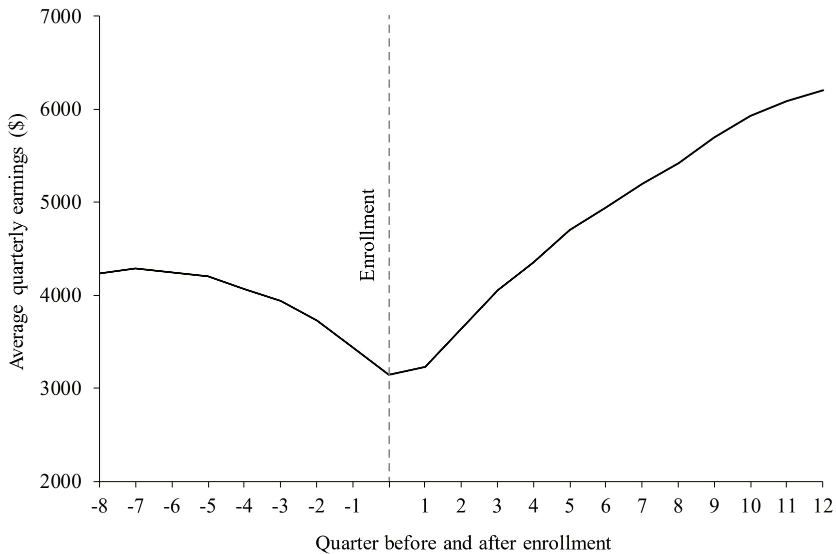
enrollment.[31] By the fourth quarter after enrollment, average earnings were higher than average earnings in any preenrollment quarter.

Employment and Earnings after Training Completion

In addition to employment and earnings increases for all participants, results show that employment and earnings were higher in the quarters after enrollment for participants who completed a training course than for those who dropped out or failed to complete a training course. Participants are considered to have dropped out if they did not successfully complete at least one training course, indicating that they didn't complete, failed, or never enrolled in a training course.

Figure 4.5 shows employment in the 8 quarters before HPOG enrollment (left panel) and in the 12 quarters after training completion (right

Figure 4.4 Earnings of Employed HPOG Participants, by Quarter (18-month sample)

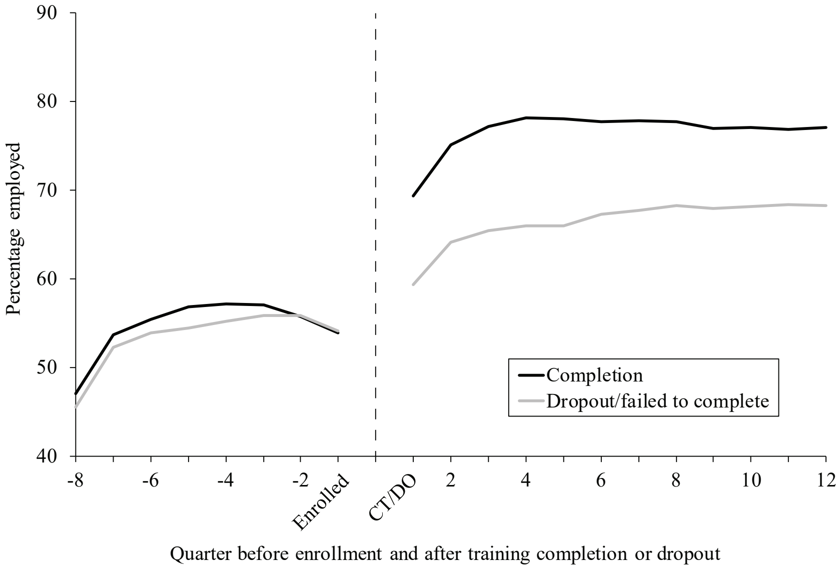


NOTE: Sample includes participants with at least 18 months of postenrollment experience (enrolled by April 1, 2014) who were employed in a given quarter. N ranges from 8,074 participants to 14,808 per quarter.
SOURCE: National Directory of New Hires.

panel). For comparison, the figure also presents employment for those who dropped out or failed to complete a training course.[32] Both groups of participants saw employment increases after training completion or dropout relative to employment prior to enrollment, which was similar for both groups. The highest percentage employed in any quarter prior to enrollment was 57 percent for those who eventually completed a training course and 56 percent for those who dropped out or failed to complete a training course. The percentages employed in the quarter of completion and dropout were 69 percent and 59 percent, respectively.

In subsequent quarters, participants who completed a training course had higher employment rates compared to participants who dropped out of or failed to complete a training course. For example, in the twelfth quarter after completing training or dropping out, employment for those who completed training was 77 percent compared to 68

Figure 4.5 Employment of HPOG Participants in the Quarters before Enrollment and after Training Completion or Dropout (18-month sample)

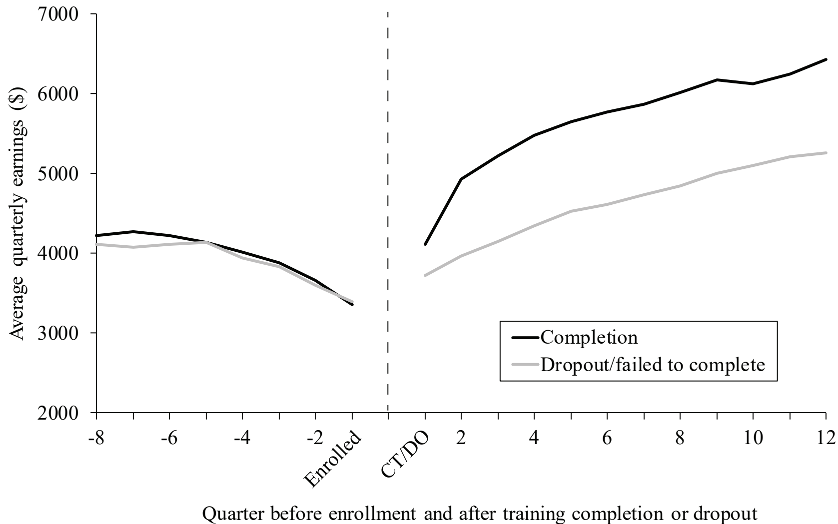


NOTE: CT/DO = quarter completed training/quarter dropped out of training. Sample includes participants with at least 18 months of postenrollment experience (enrolled by April 1, 2014) who had completed training or failed to complete training and were employed in a given quarter. N ranges from 11,983 participants to 9,928 per quarter for those who completed training and 5,810 participants to 4,871 per quarter for those who dropped out or failed to complete.
SOURCE: National Directory of New Hires.

percent for those who did not. However, there may be other differences across these two groups that could influence outcomes for training completion and employment. This finding, therefore, cannot be interpreted as causal evidence that training completion alone was the reason for training completers' higher rate of employment.[33]

Average quarterly earnings for those employed increased steadily after training completion. Figure 4.6 shows quarterly earnings of employed HPOG participants who completed training for the 8 quarters before enrollment and the 12 quarters after completing training. Quarterly earnings continued to grow steadily for both groups from the

Figure 4.6 Earnings of Employed HPOG Participants in the Quarters before Enrollment and after Training Completion or Dropout (18-month sample)



NOTE: CT/DO = quarter completed training/quarter dropped out of training. Sample includes participants with at least 18 months of postenrollment experience (enrolled by April 1, 2014) who had completed training or failed to complete training and were employed in a given quarter. N ranges from 9,283 participants to 5,310 per quarter for those who completed training and 3,957 participants to 2,518 per quarter for those who dropped out or failed to complete.
SOURCE: National Directory of New Hires.

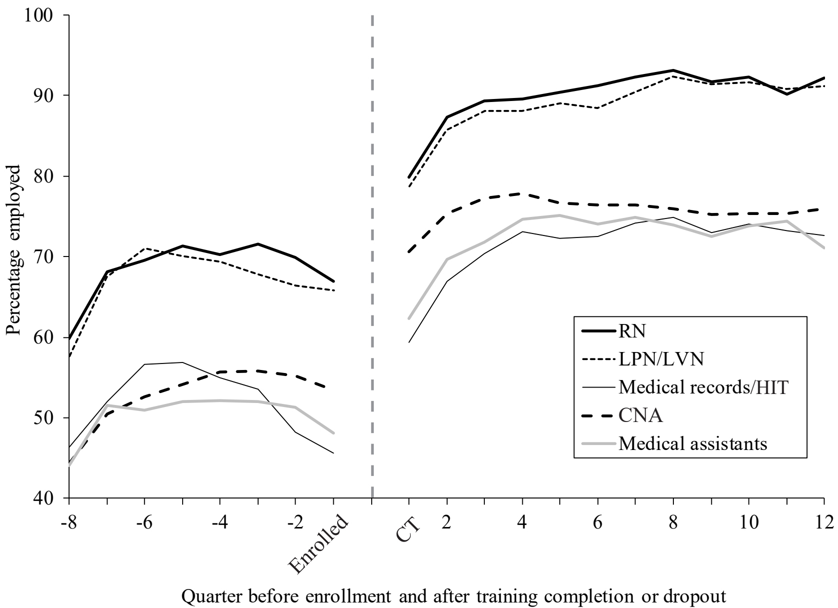
quarter of completion or dropping out through the twelfth quarter, with those who completed training maintaining higher earnings on average. From the quarter of enrollment to the twelfth quarter after training completion, average earnings for those who completed training had increased by almost 50 percent, from $3,359 to $6,433 per quarter. For comparison, earnings for those who dropped out or failed to complete training also increased steadily, but were substantially lower. From the quarter of enrollment to the twelfth quarter after dropping out, average earnings for this group increased by about 35 percent from $3,401 per quarter to $5,263.

Employment and Earnings by Occupational Training

HPOG participants engaged in many different health care occupational training courses. Participants had different employment and earnings outcomes, depending on the training course completed. Figure 4.7 shows average participant employment in the 8 quarters prior to enrollment and the 12 quarters after training completion for the five most common training courses among the HPOG grantees.

Participants who completed training to become an RN had the highest average employment of the five most common health care trainings. At 12 quarters after completion, 92 percent of RN training completers

Figure 4.7 Employment of HPOG Participants in the Quarters before Enrollment and after Training Completion for the Five Most Common HPOG Health Care Trainings (18-month sample)



NOTE: CT = quarter completed training. HIT = health information technician. Sample includes participants with at least 18 months of postenrollment experience (enrolled by April 1, 2014) who had completed training and were employed in a given quarter. N ranges from 6,123 participants to 255 per quarter for those who completed a particular health care training and were employed in the given quarter.
SOURCE: National Directory of New Hires.

were employed. The next highest rate of employment was for those who completed LPN/LVN training, with 91 percent employment in the twelfth quarter after completion. Of those completing CNA training, medical records and health information technician (HIT) training, and medical assistant training, 76 percent, 73 percent, and 71 percent, respectively, were employed. Participants who completed trainings with longer average durations tended to have higher levels of employment.

Compared to preenrollment rates of employment, all participants who completed training courses saw increases in employment. For example, 56 percent of those who completed CNA training were employed in the fourth quarter prior to enrollment; in the twelfth quarter after completion, 76 percent were employed. For each of the most common occupations, rates of employment were relatively flat from the fourth to tenth quarter after completion.[34]

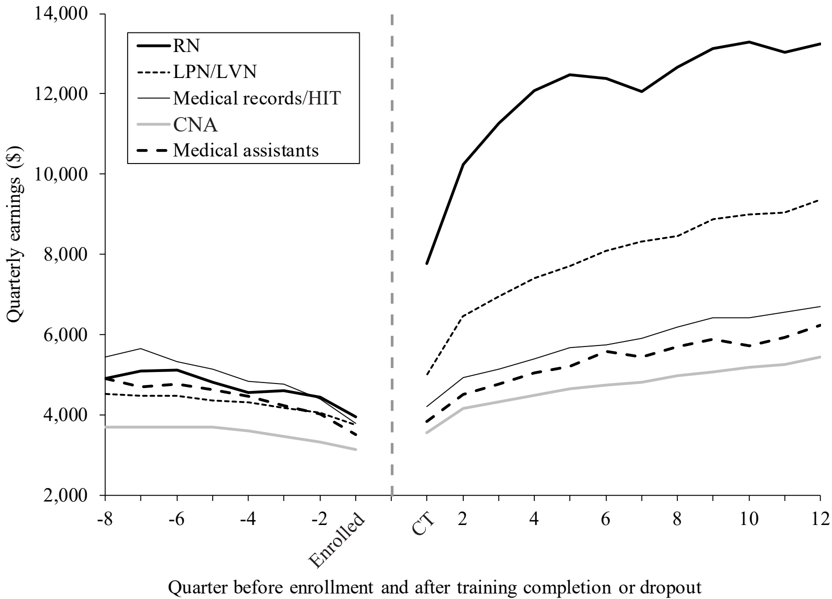
Average quarterly earnings increased after training completion for all of the five most common occupational trainings, but they varied, depending on which training was completed (see Figure 4.8). Participants who completed an RN training course had substantially higher average quarterly earnings than the other four occupations. Those who completed an RN course earned on average $13,247 in the twelfth quarter after training completion—more than twice the average earnings of those who completed CNA training ($5,448 in the twelfth quarter after training completion). Participants who completed an LPN/LVN training course also earned on average substantially more than those who completed any of the three lower-level training courses. In the twelfth quarter after completion, LPN/LVN completers earned $9,361 on average, medical records/HIT completers earned $6,700, and medical assistant completers earned $6,237.

Earnings increased steadily for each of the five most common training courses from the quarter of training completion to the twelfth quarter after training completion. However, for the first four quarters after completing medical records/HIT or medical assistant training, participants' average earnings were lower than preenrollment earnings.

Characteristics of Jobs

The National Directory of New Hires data used above to report on quarterly employment and earnings do not include information about

Figure 4.8 Quarterly Earnings of HPOG Participants before Enrollment and after Training Completion for the Five Most Common HPOG Health Care Trainings (18-month sample)



NOTE: CT = quarter completed training. HIT = health information technician. Sample includes participants with at least 18 months of postenrollment experience (enrolled by April 1, 2014) who had completed training and were employed in a given quarter. N ranges from 4,727 participants to 235 per quarter for those who completed a particular health care training and were employed in the given quarter.
SOURCE: National Directory of New Hires.

the characteristics of jobs, including whether the job was in the health care sector, hourly wage, hours of employment, and availability of health insurance coverage. To fill this gap, the study collected data on employment and job characteristics for a sample of participants who responded to a follow-up survey initiated 15 months after enrollment. This section provides findings on job characteristics for those employed based on these data.[35] Table 4.12 shows employment status 15 months after enrollment and at any time during the 15-month period.

Almost three-quarters of survey respondents (73 percent) reported being employed at 15 months after enrollment. The survey data allow

Table 4.12 Employment of HPOG Participants, 15 Months after Enrollment

	At 15th month		Any time in 15 months	
Status	Number	Percentage	Number	Percentage
Employed	3,369	73	4,060	88
Employed in health care[a]	2,429	53	2,771	60

[a] In a health care occupation or with a health care employer.

NOTE: Sample is 4,646 participants across all HPOG grantees who enrolled in HPOG between September 1, 2013, and September 30, 2014, and responded to the 15-month follow-up survey of HPOG participants.

Missing responses for each survey item range from 6 to 11.

SOURCE: 15-month follow-up survey of HPOG participants; 15-month follow-up survey of PACE participants.

us to determine whether these jobs are in the health care sector; that is, either in a health care occupation or with a health care employer. Of all survey respondents, 53 percent were employed in health care (more than two-thirds of those employed). Note that at 15 months after enrollment some participants had finished training and were no longer in the HPOG program, whereas others were still in training or receiving services. When considering work at any time over the course of enrollment in HPOG through 15 months, 88 percent of participants were employed; 60 percent of participants were employed in health care.

Another goal of HPOG was for participants to secure high-quality jobs as measured by average hourly wage, full-time hours, and availability of employer-based health insurance (see Table 4.13). Participants employed at 15 months after enrollment reported an average hourly wage of $12.99. Those employed in health care jobs reported earning almost $2 more an hour than those employed in non–health care jobs ($13.49 compared to $11.71).

The average hours worked per week for those employed was 34, just below the 35-hour threshold for what is typically considered full-time work. Average hours worked per week was only slightly higher for health care jobs (35 hours) than for non–health care jobs (32 hours). Of participants with health care jobs, 63 percent worked full time (35+ hours per week), whereas 51 percent of those in non–health care jobs worked full time.

Finally, a large majority of survey respondents' jobs offered health insurance. For all employed survey respondents, 72 percent held jobs

Table 4.13 Job Characteristics of Employed HPOG Participants, 15 Months after Enrollment

Characteristic	All jobs (N = 3,369)	Health care jobs[a] (N = 2,429)	Non–health care jobs (N = 940)
Average hourly wage[b] ($)	12.99	13.49	11.71
Average hours per week	34	35	32
Full-time (35+ hours/week) (%)	59	63	51
Job offers health insurance, all jobs (%)	72	77	58
Job offers health insurance, full-time jobs (%)	83	85	76

[a] In a health care occupation or with a health care employer.

[b] Average hourly wage is among those reporting wages.

NOTE: Sample is 4,646 participants across all HPOG grantees who enrolled in HPOG between September 1, 2013, and September 30, 2014, and responded to the 15-month follow-up survey of HPOG participants. Sample for whether job offers health insurance is 4,402 (does not include participants enrolled at HPOG programs participating in PACE). The number of participants missing/refused response ranges from 21 to 125.

SOURCE: 15-month follow-up survey of HPOG participants; 15-month follow-up survey of PACE participants.

that offered health insurance. This rate was much higher for those in health care jobs (77 percent) than in non–health care jobs (59 percent). Of those employed full time, 83 percent held jobs that offered health insurance, and again the rate was higher for those in health care jobs (85 percent) than in non–health care jobs (76 percent).

SELF-ASSESSMENT OF CAREER PROGRESS

The HPOG program ties educational goals to career goals. The 15-month follow-up survey of HPOG participants asked two questions related directly to participants' self-assessment of career progress: "Would you say you [agree] with the following statements? 'I am making progress toward my long-range employment goals' and 'I see myself on a career path.'" Similar to educational progress reported earlier, large majorities either strongly or somewhat agreed with each statement (see Table 4.14).

Table 4.14 Self-Assessment of Career Progress

	Response to statement:			
	"I am making progress toward my long-term employment goals."		"I see myself on a career pathway."	
Level of agreement	Number	Percentage	Number	Percentage
Strongly agree	2,840	61	3,223	69
Somewhat agree	1,274	27	975	21
Somewhat disagree	292	6	244	5
Strongly disagree	217	5	182	4
Don't know	2	1	2	<1
Total	4,646	100	4,646	100

NOTE: Sample is 4,646 participants across all HPOG programs who enrolled in HPOG between September 1, 2013, and September 30, 2014, and responded to the 15-month follow-up survey of HPOG participants.
Missing for this survey item = 0.

SOURCE: 15-month follow-up survey of HPOG participants; 15-month follow-up survey of PACE participants.

CONCLUDING OBSERVATIONS

The following discussion draws on the findings to provide insights on HPOG for program operators and developers.

- **The policy strategy behind HPOG was successful in one of its major goals—recruiting and training low-income individuals for employment in the health care professions.**

Over the five-year grant period, the 27 nontribal HPOG 1.0 grantees were successful in enrolling more than 36,000 participants in HPOG (well above HPOG's initial estimate based on grant applications of about 30,000 participants) and engaging most of them in health care occupational training. Of those who consented to participate in research (29,942 participants), 88 percent engaged in training within 18 months after enrollment. Of those who enrolled in training, 78 percent completed at least one training, and another 5 percent were still in training, by three years after enrollment.

Three years after enrolling in HPOG, overall participant employment increased from 52 percent to 75 percent. Over the first 15 months

after enrollment, 60 percent of participants surveyed reported having held a job in health care; 53 percent reported being currently employed in health care at 15 months after enrollment.

- **Programs like HPOG that are trying to help individuals move along a career pathway need to address how to support longer-term training and encourage and create incentives for completers of short-term training to return for further training for higher-level jobs.**

Most HPOG participants engaged in short-term training for low-wage entry-level jobs, such as CNA and other medical aides positions. The career pathways framework envisions that those who train for entry-level jobs in a given profession might move to higher-paying positions through a combination of work experience and further training. Findings from the NIE suggest that within the three-year window covered by the evaluation, movement up a career pathway through education and training did not occur for most HPOG participants. ACF is supporting follow-up studies that track HPOG participant outcomes and impacts over 36 and 72 months after random assignment to continue to assess whether HPOG participants move forward on a career pathway over time.[36]

The results from the NIE suggest that training programs should continue to support participants in longer-term training for better-paying occupations, but they also should consider strategies to increase the likelihood of additional career-growth training for participants who train for entry-level jobs. One possible strategy is for training institutions to increase outreach and recruitment for training of incumbent entry-level health care workers. Only a handful of HPOG 1.0 programs had agreements with employers to train incumbent workers. Increasing support for incumbent workers through incentives to return to training by developing more partnerships with health care employers could provide a stronger basis for more workers to train for higher-paying jobs along their career pathways.

- **Relatively few applicants with low educational attainment and basic skills enrolled in HPOG.**

A review of the education-related characteristics of HPOG participants (see Table 4.1) reveals that most applicants had relatively high educational attainment and relatively good academic skills compared to

the TANF population overall. Only 6 percent of HPOG applicants did not have a high school diploma or equivalency, and 45 percent had one or more years of postsecondary education; 85 percent and 74 percent tested at eighth grade or above for literacy and numeracy, respectively. By comparison, about 40 percent of TANF recipients have less than 12 years of schooling, and only about 8 percent have any educational experience beyond high school (Office of Family Assistance 2015).

Two strategies for program design and implementation could make it possible for training programs to lower eligibility standards while increasing participation in health care training among academically underprepared applicants. One strategy is to increase the degree to which programs integrate adult basic education with health care training. This approach—one prominent model of which is I-BEST—has shown promising results in nonexperimental studies and is currently being tested in an experiment as part of the PACE Study (Jenkins, Zeidenberg, and Kienzi 2009). A second strategy is to develop program structures that create a close connection or pipeline between basic skills instruction and occupational training.

PROSPECTS FOR FURTHER RESEARCH

Though the NIE found that grantees overall implemented HPOG as specified in the authorizing legislation, two important research questions remained:

1) **Did HPOG lead to better outcomes than participants would have achieved in its absence?** This question concerns the impacts of HPOG on participants' and their families' lives and is an important measure of its success relative to existing services and other policy initiatives.
2) **Did HPOG represent a solid first step along a career pathway; that is, will HPOG participants continue to build careers and obtain higher-wage jobs through further work experience and education?** Given the relatively short duration of the HPOG grants, as well as the short observation window available to the NIE to measure outcomes, it was not pos-

sible to address this question adequately. More follow-up time is needed to measure subsequent training and career growth.

To begin to address these questions, ACF funded three subsequent projects. Answering the first question is a core research goal of three studies: 1) the HPOG Impact Study, which uses an experimental design to estimate the effects of HPOG based on a survey initiated at 15 months after random assignment;[37] 2) the Career Pathways Intermediate Outcomes Study, which analyzes results of a follow-up survey fielded at 36 months after random assignment of individuals in the HPOG Impact Study sample and in PACE; and 3) the Career Pathways Long-Term Outcomes Study, which analyzes results from a similar survey at 72 months after random assignment. These longer-term views of HPOG participants' further work and educational experiences and outcomes will help address the second remaining research question.[38]

Further, ACF used findings from the NIE to refine the HPOG program design when issuing the Funding Opportunity Announcement (FOA) for a second round of HPOG grants (HPOG 2.0). For HPOG 2.0, ACF required HPOG 2.0 grantees more explicitly and strictly to do the following:

- **Engage employers**, such as by designing HPOG programs with employers, having job developers or employer specialists on staff, partnering with sector organizations, and providing opportunities for work-based learning, including internships and registered apprenticeships.
- **Align programs with labor market demand**, including thorough analysis of traditional labor market data, real-time labor market trends, occupational wage data, and local training capacity.
- **Link HPOG education and training along clearly defined career pathways**, with priority going to occupations that are expected to be full time, have regular hours, offer benefits, and/or have strong potential for advancement.
- **Incorporate evidence-based education and training components and practices**, such as specific strategies that promote advancement along career pathways, innovative approaches to basic skills education, and articulation of training along pathways, especially from noncredit to credit-bearing trainings.

- **Involve local TANF agencies in program design and implementation**, such as ongoing partnerships to ensure referrals from the TANF program and willingness to allow its recipients to count HPOG activities toward meeting TANF work participation requirements, if possible, or to combine HPOG activities with countable work activities.
- **Ensure HPOG training results in employer- or industry-recognized credentials**, such as a professional license, third-party certification, or postsecondary educational certificate or degree (as well as a registered apprenticeship certificate).

ACF also funded a national evaluation of the HPOG 2.0 grantees that includes a descriptive evaluation (comprising an implementation study, an outcome study, and a systems study) and an impact evaluation.[39]

Notes

1. In 2010, ACF awarded the first round of five-year HPOG grants (HPOG 1.0) to 32 organizations in 23 states, including five tribal organizations, with approximately $67 million disbursed each year through fiscal year 2015. It awarded a second round of five-year grants in 2015 to 32 organizations across 21 states (HPOG 2.0).
2. In 2016, Abt Associates and its partner, the Urban Institute, published two reports that summarized the findings of the three related studies based on the experience of HPOG through September 2014 (the first four years of the five-year grant period): *Descriptive Implementation and Outcome Study Report* (Werner et al. 2016) and *Systems Change under the Health Profession Opportunity Grants (HPOG) Program* (Bernstein et al. 2016). In 2018, Abt Associates and the Urban Institute published the NIE *Final Report* (Werner et al. 2018), primarily updating findings on HPOG participant experiences through the five-year period of HPOG operations and participant outcomes for up to three years following program entry. The findings reported in this chapter are drawn from the first and third reports.
3. The HPOG Impact Study is estimating HPOG 1.0 impacts (see Chapter 3 for a description of the HPOG Impact Study).
4. Of the 36,000 participants, about 30,000 consented to be in the research study and are represented all or in part in the statistics included in this chapter.
5. See Chapter 3 for description of the HPOG Impact Study.
6. See Chapter 3 for description of the HPOG Impact Study. The PACE Study, also funded by ACF, is a multisite implementation and experimental evaluation of career pathways occupational education programs. For more on PACE see https://www.acf.hhs.gov/opre/research/project/pathways-for-advancing-careers-and-education (accessed March 1, 2019).

7. There is no federal income eligibility standard for TANF. Instead, each state sets its own income eligibility requirement. See http://anfdata.urban.org/databooks/welfare%20Rules%Databook%202013.pdf (accessed August 13, 2019).
8. Reported characteristics are of all participants through September 30, 2015.
9. Approximately 17 percent of participants are missing information on literacy assessment, and 20 percent are missing information on numeracy assessment. These participants may not have been administered an assessment for literacy or numeracy.
10. FPL guidelines for 2014 can be found at http://aspe.hhs.gov/poverty/14poverty.cfm (accessed March 1, 2019).
11. Single mothers include those who were never married, divorced, widowed, or separated.
12. HPOG Impact Study site visits, 2014.
13. HPOG Grantee survey, 2014, Q8.6.
14. *Training course* here is defined as all the education and training activity needed to prepare for the specific occupation, including multiple classes required.
15. HPOG Grantee survey, 2014, Q8.13.
16. See Werner et al. (2016, p. 63).
17. HPOG Management and Staff survey, 2014, Q20-S.
18. HPOG Grantee survey, 2014, Q9.14.
19. HPOG Grantee survey, 2014, Q9.15.
20. HPOG Grantee survey, 2014, Q9.17.
21. HPOG Grantee survey, 2014, Q9.18.
22. HPOG funds cannot be used for medical care unless it is an integral but subordinate part of a social service for which grant funds may be used.
23. In the Performance Rating System (PRS), participants are considered still in training if they do not have a completion or dropout date entered. Therefore, some participants included in the "still in training" estimate at 36 months after enrollment may be the result of data entry errors in which a completion or dropout date was not recorded by the grantee.
24. The *length* of an HPOG health care training course is defined as the number of months between the first and the last days of training, as indicated in a participant's administrative record. This may include breaks in training and other time away from training and so represents only an approximation of actual training course length.
25. Note that some participants had partially completed these longer-term courses before enrolling in HPOG.
26. Some HPOG programs chose to restrict participants to one training course to maximize the number of people benefitting from the program.
27. Note that the exhibit describes only change over time. Readers should not conclude that such changes are necessarily due to participation in HPOG. Also note that 7 percent of the research sample had four or more years of college at program entry.
28. This section uses the sample of participants with 18 months of postenrollment experience. This allows us to take advantage of this larger sample.

29. *Employment* is defined as having greater than $58 of earnings in a quarter, the equivalent of one day of work at minimum wage.
30. Note that past literature has shown that training participants commonly experience a dip in earnings right before entering the training program, referred to as an "Ashenfelter's dip" (Ashenfelter and Card 1985). The effect of any dip is mitigated somewhat here by examining earnings eight quarters before entry. However, future experimental results will show whether HPOG training caused earnings to increase for those participants offered training.
31. Earnings in the exhibit combine earnings across multiple jobs. Any positive amount of earnings in the quarter is included. Earnings in a quarter were top-coded at $30,000 to limit skewing of averages by potential data error outliers.
32. This includes individuals who started training and dropped out or failed to complete, as well as individuals who enrolled in an HPOG program but never started a health care training.
33. For example, the reasons individuals drop out of training also may affect their success in finding a job.
34. Sample sizes are smaller in the last quarters after completion, especially for longer trainings. This means estimates are measured with less precision.
35. The 15-month follow-up survey of HPOG participants was conducted for all participants who were randomly assigned as part of the HPOG Impact Evaluation and for a subset of participants in grantees that did not participate in the Impact Evaluation. This subset was roughly those who enrolled in HPOG during the same time period in which random assignment had taken place so that survey responses would generally reflect the same time period for all surveyed. It also surveyed individuals who had less than 18 months of follow-up time during the HPOG program. Thus, the survey sample included here overlaps with, but is not the same as, the 18-month sample.
36. The Career Pathways Intermediate Outcomes and Career Pathways Long-Term Outcomes Studies will rigorously evaluate the intermediate and longer-term impacts of career pathways program models on participants' educational progress and employment and earnings. For more information, see https://www.acf.hhs.gov/opre/research/project/career-pathways-intermediate-outcomes-cpio-study and https://www.acf.hhs.gov/opre/research/project/career-pathways-long-term-outcomes-study (accessed March 1, 2019).
37. The *Health Profession Opportunity Grants (HPOG 1.0) Impact Study Interim Report* was released in 2018.
38. The Career Pathways Intermediate Outcomes report on 36-month impacts for HPOG is scheduled for 2019; the Career Pathways Long-Term Outcomes report on 72-month impacts is scheduled for 2021.
39. For more information see: https://www.acf.hhs.gov/opre/research/project/national-evaluation-of-the-2nd-generation-of-health-profession-opportunity-grants-hpog-20-national-evaluation (accessed March 1, 2019).

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