

Health Profession Opportunity Grants (HPOG 1.0) Impact Study: Three-Year Impacts Report Appendices

OPRE 2019-114
November 2019



Health Profession Opportunity Grants (HPOG 1.0) Impact Study: Three-Year Impacts Report Appendices

OPRE Report 2019-114

November 2019

Authors: Daniel Litwok, Douglas Walton, Rebecca Jackson, and Laura R. Peck

Submitted to:

Nicole Constance & Amelia Popham, Contracting Officer's Representatives
Office of Planning, Research, and Evaluation
Administration for Children and Families
U.S. Department of Health and Human Services

Contract No. HHSP23320095624WC, Task Order HHSP23337019T
Project Director: Larry Buron
Abt Associates Inc.
6130 Executive Blvd.
Rockville, MD 20852

This report is in the public domain. Permission to reproduce is not necessary. Suggested citation: Litwok, Daniel, Douglas Walton, Rebecca Jackson, and Laura R. Peck. (2019). *Health Profession Opportunity Grants (HPOG 1.0) Impact Study: Three-Year Impacts Report Appendices*, OPRE Report 2019-114. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

Disclaimer:

The views expressed in this publication do not necessarily reflect the views or policies of the Office of Planning, Research, and Evaluation, the Administration for Children and Families, or the U.S. Department of Health and Human Services.

This report and other reports sponsored by the Office of Planning, Research, and Evaluation are available at www.acf.hhs.gov/opre.



[Sign-up for the
ACF OPRE News
E-Newsletter](#)



Like OPRE on Facebook
facebook.com/OPRE.ACF



Follow OPRE on Twitter
[@OPRE_ACF](https://twitter.com/OPRE_ACF)



Acknowledgements

The authors of this report gratefully acknowledge the valuable contributions of the large research team who contributed to this study and this report. Eleanor Harvill and Michel Grosz contributed to analyses. Larry Buron directed the Career Pathways Intermediate Outcomes project. Jacob Klerman provided careful review and thorough comments. Marina Kosareva assisted with graphics and Bry Pollack provided editorial and formatting assistance.

Table of Contents

List of Exhibits	v
List of Boxes	viii
Appendix A. HPOG as Part of OPRE’s Career Pathways Research Portfolio	1
Appendix B. Sample Sizes and Missing Data	4
B.1 Sample of Programs and Study Participants.....	4
B.2 Survey Response Timing.....	8
B.3 Missing Data.....	8
Appendix C. Supplemental Materials for Chapter 3.....	22
C.1 Impacts of HPOG on Educational Progress: Supplemental Materials	23
C.2 Measurement of Educational Progress Outcomes	24
Appendix D. Supplemental Materials for Chapter 4.....	25
D.1 Impacts of HPOG on Earnings: Supplemental Materials	26
D.2 Impacts of HPOG on Employment: Supplemental Materials	27
D.3 Impacts of HPOG on Weekly Earnings, Weekly Hours, and Wages.....	29
D.4 Time Trend Analysis of Employment and Earnings.....	32
D.5 Measurement of Favorable Job Characteristics	33
D.6 Descriptive Analysis of Training Type and Occupation Field.....	35
Appendix E. Supplemental Materials for Chapter 5.....	38
E.1 Impacts of HPOG on Income and Public Assistance: Supplemental Materials	39
E.2 Impacts of HPOG on Psychological Well-Being and Barriers to Employment: Supplemental Materials	40
Appendix F. Supplemental Materials for Chapter 6.....	41
F.1 Impacts of HPOG on Demographic Subgroups: Supplemental Materials	42
F.2 Impacts of HPOG on Policy-Relevant Subgroups: Supplemental Materials	46
F.3 Impacts of HPOG on Public Assistance Subgroups: Supplemental Materials	77
F.4 Descriptive Analysis of Training Type and Occupation Field by Subgroup.....	82
Appendix G. Supplemental Materials for Chapter 7	87
G.1 Impacts of HPOG on Parents: Supplemental Materials.....	88
G.2 Impacts of HPOG on Child Development and Well-Being: Supplementary Materials.....	91
Appendix H. Supplemental Materials for Chapter 8.....	93
Works Cited.....	99

List of Exhibits

Exhibit B.1: HPOG Programs and Operator Type	5
Exhibit B.2: Sample Sizes for Impact Analyses	7
Exhibit B.3: Timing of Three-Year Participant Survey Responses	8
Exhibit B.4: Item Nonresponse for Analysis Variables from Survey	11
Exhibit B.5: Item Nonresponse for Analysis Variables from Administrative Data	17
Exhibit C.1: Impacts on Educational Progress: Supplementary Materials.....	23
Exhibit D.1: Impacts on Earnings: Supplementary Materials	26
Exhibit D.2: Impacts on Employment: Supplementary Materials.....	27
Exhibit D.3: Impacts on Other Labor Market Outcomes: Supplementary Materials.....	28
Exhibit D.4: Impacts on Weekly Earnings, Weekly Hours, and Hourly Wages	31
Exhibit D.5: Impacts on Time Trend for Employment and Earnings.....	33
Exhibit D.6: Elements of Self-Reported Favorable Job Characteristics	34
Exhibit D.7: Impacts on Other Labor Market Outcomes.....	35
Exhibit D.8: First HPOG Training by Type and Average Duration.....	36
Exhibit E.1: Impacts on Income and Public Assistance: Supplementary Materials	39
Exhibit E.2: Impacts on Psychological Well-Being and Barriers to Employment: Supplementary Materials.....	40
Exhibit F.1: Impacts on Demographic Subgroups: Supplementary Materials.....	42
Exhibit F.2: Difference in Impacts on Educational Progress by Demographic Subgroups.....	43
Exhibit F.3: Impacts on Earnings by Demographic Subgroups: Supplementary Materials	44
Exhibit F.4: Difference in Impacts on Earnings by Demographic Subgroups	45
Exhibit F.5a: Impacts by Enrollment at Program Entry (Enrolled at Baseline): Supplementary Materials.....	46
Exhibit F.5b: Impacts by Enrollment at Program Entry (Not Enrolled at Baseline): Supplementary Materials.....	47
Exhibit F.6: Difference in Impacts by Enrollment at Program Entry.....	48
Exhibit F.7a: Impacts by Expectations for Participation (Full-Time): Supplementary Materials.....	50
Exhibit F.7b: Impacts by Expectations for Participation (Part-Time): Supplementary Materials.....	51
Exhibit F.8: Difference in Impacts by Expectations for Participation at Program Entry.....	52
Exhibit F.9a: Impacts by Educational Attainment at Program Entry (Degree): Supplementary Materials.....	54
Exhibit F.9b: Impacts by Educational Attainment at Program Entry (Some Postsecondary): Supplementary Materials.....	54

Exhibit F.9c: Impacts by Educational Attainment at Program Entry (High School or Equivalent): Supplementary Materials	56
Exhibit F.10: Difference in Impacts by Educational Attainment (Four-Groups) at Program Entry.....	58
Exhibit F.11a: Impacts by Educational Attainment at Program Entry (Some Post-Secondary or More): Supplementary Materials.....	62
Exhibit F.11b: Impacts by Educational Attainment at Program Entry (High School or Less): Supplementary Materials.....	63
Exhibit F.12: Difference in Impacts by Educational Attainment (Two-Groups) at Program Entry.....	64
Exhibit F.13b: Impacts by Barriers to School and Work at Program Entry (One Barrier): Supplementary Materials.....	67
Exhibit F.13c: Impacts by Barriers to School and Work at Program Entry (No Barriers): Supplementary Materials.....	68
Exhibit F.14: Difference in Impacts by Barriers (Three Groups) to School and Work at Program Entry	69
Exhibit F.15a: Impacts by Barriers to School and Work at Program Entry (One or More Barriers): Supplementary Materials	71
Exhibit F.15b: Impacts by Barriers to School and Work at Program Entry (No Barriers): Supplementary Materials.....	72
Exhibit F.16: Difference in Impacts by Barriers (Two Groups) to School and Work at Program Entry	73
Exhibit F.17a: Impacts by Employment at Program Entry (Employed): Supplementary Materials.....	74
Exhibit F.17b: Impacts by Employment at Program Entry (Not Employed): Supplementary Materials.....	75
Exhibit F.18: Difference in Impacts by Employment at Program Entry.....	76
Exhibit F.19a: Impacts by TANF or SNAP/WIC Receipt at Program Entry (Received TANF): Supplementary Materials.....	77
Exhibit F.19b: Impacts by TANF or SNAP/WIC Receipt at Program Entry (Received SNAP/WIC, no TANF): Supplementary Materials	78
Exhibit F.19c: Impacts by TANF or SNAP/WIC Receipt at Program Entry (Did not receive TANF, SNAP, or WIC): Supplementary Materials	79
Exhibit F.20: Difference in Impacts by TANF or SNAP/WIC Receipt at Program Entry.....	80
Exhibit F.20: First HPOG Training by Type and Average Duration (Enrollment Subgroups).....	83
Exhibit F.21: First HPOG Training by Type and Average Duration (Education Subgroups).....	84
Exhibit F.22: Occupations by Type and Average Salary (Enrollment Subgroups).....	85
Exhibit F.23: Occupations by Type and Average Salary (Education Subgroups).....	86
Exhibit G.1a: Impacts by Parental Status (Parent): Supplementary Materials	88

CONTENTS

Exhibit G.1b: Impacts by Parental Status (Not Parent): Supplementary Materials	89
Exhibit G.2: Difference in Impacts by Parental Status	90
Exhibit G.3: Impacts on Child Development and Well-Being: Supplementary Materials	91
Exhibit G.4: Impacts on School Risk: Supplementary Materials.....	92
Exhibit H.1: Complete List of Patterns Included in Three Transition Types.....	94

List of Boxes

How to Read the Impact Tables in This Report Appendix21

Appendix A. HPOG as Part of OPRE’s Career Pathways Research Portfolio

ACF’s Office of Planning, Research, and Evaluation (OPRE) is using a multipronged research and evaluation strategy to assess the implementation, outcomes, and impacts of the Health Profession Opportunity Grants (HPOG) Program. The program supports demonstration projects that provide Temporary Assistance for Needy Families (TANF) recipients and other low-income individuals with the opportunity to obtain education and training for occupations in the healthcare field that pay well and are expected to either experience labor shortages or be in high demand.

HPOG First Round (HPOG 1.0)

In 2010, ACF awarded the first round of five-year HPOG grants (HPOG 1.0) to 32 organizations in 23 states; five were tribal organizations. Non-tribal grantee programs served 36,624 participants over the five years.

HPOG Implementation and Outcomes Research

National Implementation Evaluation (NIE). The research team conducted implementation and outcomes research for the 27 non-tribal grantees operating 49 programs in 19 states. In three components, the evaluation explores how the HPOG 1.0 programs are implemented across grantees (Descriptive Implementation Study); what individual-level outcomes and outputs occur (Outcome Study); and how HPOG influences service delivery systems (Systems Change Analysis). Data sources included a grantee survey (grant directors and staff) and administrative data on participant characteristics, participation in training and services, and earnings.

- January 2018 final report: <https://www.acf.hhs.gov/opre/resource/final-report-national-implementation-evaluation-of-the-first-round-health-profession-opportunity-grants-hpog-10>

Tribal Evaluation. The research team conducted implementation and outcomes research for the five Tribal HPOG 1.0 grantees. All five of the tribal grantees established programs that lead to healthcare training completion and employment. The final report included findings on programs’ structures, processes, and outcomes as well as insights related to these findings. The research team endeavored to conduct culturally responsive evaluation by receiving input from partners, advisors, and grantees throughout the evaluation.

- March 2016 final report: <https://www.acf.hhs.gov/opre/resource/tribal-health-profession-opportunity-grants-hpog-program-evaluation-final-report>

HPOG 1.0 Impact Study

Of the 27 non-tribal HPOG 1.0 grantees, 23 participated in an experimental study to assess impacts of HPOG 1.0. Study grantees implemented 42 programs in 92 locations across 19 states. Beginning about 2½ years after grants were awarded, local programs randomly assigned eligible applicants to a “treatment” group that could access HPOG or a “control” group that could not. The study randomized 13,802 participants. Among treatment group members, some were offered the standard HPOG program and some an “enhanced” version where some study participants were offered access to emergency assistance, non-cash incentives, or facilitated peer support groups. All participants completed a baseline survey at enrollment.

Among the 23 grantees, three concurrently participated in ACF's Pathways for Advancing Careers and Education (PACE) evaluation, which began in 2007. PACE is separately evaluating nine career pathways programs across the U.S. Each program is being evaluated through implementation and impact studies, and the study is producing separate reports for each program.

- More information and reports from the PACE project:
<https://www.acf.hhs.gov/opre/research/project/pathways-for-advancing-careers-and-education>

Short-Term Impacts. About 15 months after being randomly assigned, all study participants were asked to participate in a follow-up survey. The research team assessed short-term outcomes using that follow-up survey data, administrative data, implementation research on the 23 grantees from NIE, and site visits conducted specifically for the Impact Study.

- May 2018 *HPOG 1.0 Impact Study Interim Report: Program Implementation and Short-Term Impacts*:¹ <https://www.acf.hhs.gov/opre/resource/health-profession-opportunity-grants-hpog-10-impact-study-interim-report-implementation-short-term-impacts>

Longer-Term Impacts. OPRE is tracking outcomes for both HPOG 1.0 and PACE in two longer-term studies, considering intermediate and long-term outcomes approximately three years and six years, respectively, after random assignment.

- Three years (this report): <https://www.acf.hhs.gov/opre/research/project/career-pathways-intermediate-outcomes-cpio-study>
- Six years: <https://www.acf.hhs.gov/opre/research/project/career-pathways-long-term-outcomes-study>

HPOG University Partnership Research Grants (HPOGUP)

In 2011, OPRE awarded grants to five university researchers partnered with one or more HPOG 1.0 program grantees. The funded research and evaluation studies answered specific questions about how to improve HPOG services within local contexts. The HPOGUP grantees included Brandeis University, Loyola University of Chicago, North Dakota State University, Northwestern University, and Temple University.

- Overview of each HPOGUP grant and its research contributions:
<https://www.acf.hhs.gov/opre/resource/the-hpog-university-partnership-research-grants>

HPOG Second Round (HPOG 2.0)

In 2015, ACF awarded a second round of HPOG grants (HPOG 2.0) to 32 organizations across 21 states. Of these, 27 are non-tribal grantees and five are tribal grantees, and 17 of the 32 had received HPOG 1.0 grants.

¹ The *Short-Term Impacts Report* as originally released in May 2018 contained an error in the subgroup impact estimates. A corrected report is available as of November 2019.

HPOG 2.0 National Evaluation

The HPOG 2.0 National Evaluation includes the 27 non-tribal grantees operating 38 local programs in 17 states. The evaluation has three components: a descriptive evaluation that includes implementation, outcomes, and systems studies; an experimental impact evaluation; and a cost-benefit study to assess the costs and benefits of a standard HPOG program. Data sources include program data, administrative data, and participant follow-up surveys at approximately 15 and 36 months after random assignment. The descriptive evaluation also includes in-depth qualitative interviews with a small sample of HPOG participants and a series of case studies of HPOG 2.0 programs implementing innovative practices in one of several focus areas.

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

HPOG 2.0 Tribal Evaluation

The Tribal HPOG 2.0 evaluation uses a mixed-methods approach and collects quantitative and qualitative data from multiple sources. The evaluation research questions focus on the tribal programs' structure, processes, and outcomes. This evaluation is grounded in culturally appropriate approaches and emphasizes evaluation technical assistance and capacity building.

- More information on the Tribal HPOG 2.0 evaluation:
<https://www.acf.hhs.gov/opre/research/project/tribal-evaluation-of-the-2nd-generation-of-health-profession-opportunity-grants-tribal-hpog-20-evaluation>

HPOG University Partnership Research Grants 2.0 (HPOGUP 2.0)

In 2016, OPRE awarded a second round of grants to three university researchers partnered with one or more HPOG 1.0 program grantees. The funded research and evaluation studies are seeking to answer specific questions about how to improve HPOG services within local contexts. The HPOGUP 2.0 grantees include Brandeis University, Loyola University of Chicago, and Northwestern University.

- Overview of each HPOGUP 2.0 grant and its research contributions:
<https://www.acf.hhs.gov/opre/research/project/health-profession-opportunity-grants-university-partnership-20-hpogup-20-research-grants>

For More Information

OPRE's HPOG Research and Evaluation portfolio page:
<https://www.acf.hhs.gov/opre/research/project/evaluation-portfolio-for-the-health-profession-opportunity-grants-hpog>

Career Pathways website: <http://www.career-pathways.org/>

Appendix B. Sample Sizes and Missing Data

This appendix provides additional information on the sample of programs and study participants, data collection, and treatment of missing data. Technical details related to missing data can also be found in the *Three-Year Analysis Plan* (Litwok et al. 2018).

B.1 Sample of Programs and Study Participants

As described in Chapter 1, we report estimates of the impact of the HPOG funding stream across a diverse set of 42 distinct programs operated by 23 grantees. Exhibit B.1 lists the 42 programs, including program name and state, program operator type, and program size (as indicated by funding levels and participants served).

Of the 42 programs in Exhibit B.1, six programs were also part of the PACE Study (see Appendix A for a definition of this study and a link to more information). We refer to these as HPOG/PACE programs:

- Pima County Community College District,
- San Diego Workforce Partnership—MAAC South,
- San Diego Workforce Partnership—Metro CTS,
- San Diego Workforce Partnership—North County Lifeline,
- Will County WIB—Instituto del Progreso Latino², and
- Workforce Development Council of Seattle-King County.

Available data varied by program type. In the HPOG/PACE programs, the PACE project collected baseline data using slightly different instruments than the HPOG-only programs that were part of the HPOG 1.0 Impact Study. While the follow-up surveys initiated 15 months after random assignment differed slightly for HPOG and PACE, both of these groups received the same three-year follow-up survey.

We include data from these HPOG/PACE programs in as many analyses as possible. However, some analyses could not be comparably constructed from PACE data, in which case we restricted the sample to the 36 HPOG-only programs for these analyses. For instance, baseline enrollment was not collected in the PACE sites, so these individuals are excluded from analyses of subgroups defined by baseline enrollment.

² The Carerras en Salud program at Instituto del Progreso Latino implemented one of the Workforce Investment Board of Will County's five local HPOG programs. The program is included in this study but is also evaluated separately under PACE.

Exhibit B.1: HPOG Programs and Operator Type

HPOG-only and HPOG/PACE Programs	Organization Type	Three-Year Analysis Sample	Total Funding (Grantee-Level)
HPOG-only Programs			
Alamo Community College District and University Health System (TX)	Higher Education Institution	264	\$3,745,999
Bergen Community College (NJ)	Higher Education Institution	188	
Brookdale Community College (NJ)	Higher Education Institution	135	
Community College of Morris (NJ)	Higher Education Institution	226	
Essex Community College (NJ)	Higher Education Institution	373	
Hudson Community College (NJ)	Higher Education Institution	71	\$18,888,394
Middlesex Community College (NJ)	Higher Education Institution	174	
Passaic Community College (NJ)	Higher Education Institution	195	
Sussex Community College (NJ)	Higher Education Institution	82	
Union Community College (NJ)	Higher Education Institution	65	
Warren County Community College (NJ)	Higher Education Institution	128	
Buffalo and Erie County WDC (NY)	WIB	616	\$5,094,471
Central Community College (NE)	Higher Education Institution	718	\$6,615,041
Central Susquehanna Intermediate Unit (PA)	Government Agency	198	\$7,409,208
Eastern Gateway Community College (OH)	Higher Education Institution	350	\$11,305,079
Edmonds Community College (WA)	Higher Education Institution	229	\$6,077,363
Full Employment Council (MO)	WIB	400	\$4,125,000
Gateway Community and Technical College (KY)	Higher Education Institution	274	\$6,257,785
Kansas Department of Commerce KS LWIB I WorkforceONE (KS)	Government Agency	186	
Kansas Department of Commerce KS LWIB II Heartland Works (KS)	Government Agency	274	
Kansas Department of Commerce KS LWIB III Workforce Partnership (KS)	Government Agency	169	\$12,098,981
Kansas Department of Commerce KS LWIB IV Workforce Alliance (KS)	Government Agency	155	
Kansas Department of Commerce KS LWIB V KansasWorks SE region (KS)	Government Agency	213	
Milwaukee Area WIB (WI)	WIB	596	\$11,280,613
New Hampshire Office of Minority Health (NH)	Government Agency	710	\$10,255,059
Pensacola State College (FL)	Higher Education Institution	255	\$6,965,383
Research Foundation of CUNY-Hostos Community College (NY)	Higher Education Institution	701	\$5,945,874
Schenectady County Community College (NY)	Higher Education Institution	745	\$9,201,517
South Carolina Department of Social Services (SC)	Government Agency	484	\$5,347,825
Suffolk County Department of Labor (NY)	WIB	528	\$4,167,741
WIB SDA-83 Inc. (LA)	WIB	237	\$11,641,764
Will County WIB IL Central States SER (IL)	WIB	120	
Will County WIB IL College of Lake County (IL)	WIB	61	\$4,197,688 ^a

APPENDIX B: SAMPLE SIZES AND MISSING DATA

HPOG-only and HPOG/PACE Programs	Organization Type	Three-Year Analysis Sample	Total Funding (Grantee-Level)
Will County WIB IL Jewish Vocational Services (IL)	WIB	67	
Will County WIB IL Joliet Junior College (IL)	WIB	24	
The WorkPlace (CT)	WIB	405	\$3,741,737
HPOG/PACE Programs			
Pima County Community College District (AZ)	Higher Education Institution	1,217	\$14,207,064
San Diego Workforce Partnership CA MAAC South (CA)	WIB	233	
San Diego Workforce Partnership CA Metro CTS (CA)	WIB	283	\$20,125,000
San Diego Workforce Partnership CA North County Lifeline (CA)	WIB	488	
Workforce Development Council of Seattle-King County (WA)	WIB	652	\$8,462,366
Will County WIB IL Instituto del Progreso Latino (IL)	WIB	227 ^a	^b

Sources: Werner et al. (2014).

Notes:

^a Funding levels are reported at the grantee level. The Instituto del Progreso Latino program was partially funded under the Will County grantee, but the program is listed among the HPOG/PACE programs because additional funding supported additional study sample and participant slots.

^b Only a portion of the Instituto del Progreso Latino sample that is part of the stand-alone PACE evaluation is HPOG-funded, and so this number is smaller than the total sample engaged in the PACE evaluation of the program.

B.1.1 Sample Sizes for Impact Analyses at Randomization and Follow-up

Across the full HPOG 1.0 Impact Study sample, 13,802 individuals were randomized. Exhibit B.2 summarizes sample attrition and relevant sample sizes for the treatment and control groups. As of December 2018, when the *Three-Year Analysis Plan* was finalized, 86 individuals had withdrawn consent for inclusion in the analysis, leaving 13,716 individuals in the analysis sample. We used this full study sample to analyze outcomes constructed from National Directory of New Hires (NDNH) data. A total of 10,027 individuals responded to the three-year follow-up survey (a 73.1 percent response rate).

Similar statistics for the HPOG-only sample are relevant for HPOG-only analyses. This sample is used for certain analyses that are not defined for participants at dual HPOG/PACE programs. In the HPOG-only sample, 10,693 individuals were randomized. As of December 2018, 77 individuals had withdrawn consent. A total of 7,689 responded to the three-year follow-up survey (a 72.4 percent response rate).

Exhibit B.2: Sample Sizes for Impact Analyses

	Total Sample	Treatment	Control
<i>Full HPOG 1.0 Impact Study Sample: 23 Grantees; 42 Programs</i>			
Randomized	13,802	8,699	5,103
Study Sample	13,716	8,672	5,044
Survey Respondents	10,027	6,476	3,551
Survey Respondents, Excluding Skipouts	9,332	6,027	3,305
<i>HPOG-only Sample: 20 Grantees; 36 Programs</i>			
Randomized	10,693	7,140	3,553
Study Sample	10,616	7,115	3,501
Survey Respondents	7,689	5,264	2,425
Survey Respondents, Excluding Skipouts	7,132	4,894	2,238

Sources: HPOG Performance Reporting System (PRS).

B.1.2 Survey Skipouts

The three-year survey was designed such that respondents who did not answer questions in the Education and Employment History module, whether they refused or simply could not recall specific details of their history, were “skipped out” of that module. This feature was built into the survey skip pattern intentionally, but as implemented the procedure skipped more items than intended.³ As a result, a total of 695 survey respondents (approximately 7 percent of respondents) are missing the entire history module, and they also skipped questions about newly earned credentials, wages and hours at all jobs, and benefits and working conditions at their current/last job. We address this systematic form of missingness by treating the skipouts as an alternative form of unit nonresponse and creating separate non-response weights for sections that these individuals skipped (see Section B.3.1 for more details).

³ Individuals were skipped out of more questions on education and career goals than had been intended (Section I of the three-year survey).

B.2 Survey Response Timing

Abt Associates' survey research branch fielded the three-year survey to all 13,716 randomized individuals who had not withdrawn from the study. The survey was released for follow-up approximately 36 months after random assignment. The survey team initially attempted to complete the survey by telephone and transitioned to in-person interviews if phone efforts were unsuccessful. Exhibit B.3 presents the distribution of the timing of survey responses. The median survey response was 39 months after random assignment.

Exhibit B.3: Timing of Three-Year Participant Survey Responses

Follow-up Month	Respondents		
	Number	Percent	Cumulative Percent
35	11	0.11	0.11
36	1,453	14.5	14.61
37	1,388	13.85	28.45
38	535	5.34	33.79
39	1,626	16.22	50.01
40	1,649	16.45	66.47
41	961	9.59	76.06
42	644	6.43	82.48
43	559	5.58	88.06
44	475	4.74	92.80
45	397	3.96	96.76
46	218	2.17	98.93
47	84	0.84	99.77
48+	23	0.23	100.00
<i>Summary of Follow-up Months</i>			
Median	39		
Mean	40		

Sources: HPOG PRS; Three-year survey. Follow-up month is calculated as the difference in days between the random assignment date and survey response divided by 30.

B.3 Missing Data

This section describes the extent of missing data and our analytic approach to dealing with it. We begin by describing the magnitude of missing data separately for survey and administrative sources. In Section B.3.1 we describe our approach to addressing each type of missing data.

The study encountered a variety of types of missing data. Some individuals were lost to survey follow-up (unit nonresponse) and others refused to answer some survey items or supplied “don’t know” responses (item nonresponse). In addition, a small number of individuals are missing administrative data from NDNH because their Social Security numbers and name combinations

do not match Social Security Administration records or because their employment is not covered by NDNH.⁴

On average, 73 percent of the study's sample responded to the follow-up survey. Although this is relatively high, it is possible that the sample of survey respondents differs from the overall study sample.⁵ Respondents need to be representative of the overall study sample for random assignment analysis to yield proper estimates of impact. Our nonresponse weighting strategy addresses this unit nonresponse (see Section B.3.1).

We also encountered item nonresponse, which refers to survey items that were missing for survey respondents. Exhibit B.4 lists each of the outcomes from the survey along with a summary of response rates to those items. For outcomes that sum across multiple survey questions, we provide the response rate for each element.⁶ For each variable we note the domain, a description of the variable, the source of the variable, and the type of variable (i.e., binary, continuous, or discrete). Next, we report the number of missing observations—the number of respondents who were asked the question and either responded “don’t know,” refused to respond, or have no response to the question—followed by the number of non-missing responses (which includes valid skips). For all non-child items, the sum of the missing and non-missing will equal the sample size for respondents of the follow-up survey (10,027 for non-skipout variables and 9,332 for survey skipout variables). For the child-related outcomes, the sum of missing and non-missing will equal the number of adult respondents who reported a child eligible for the particular question. We use the sample size as the denominator to calculate the missing rate.

The right-most column of Exhibit B.4 reports results of a statistical test for equality of the missing rate between the treatment and control groups. Across nearly 70 tests, we find six differences that are statistically significant at the 10 percent level, four at the 5 percent level, and two at the 1 percent level. These results are consistent with the number of differences we would expect to find due to chance alone. Furthermore, where there are *statistically* significant differences in missing rates, those differences are not *practically* significantly different. For instance, the test for obtained certificate, license, or credential is statistically significant at the 1 percent level, but the missing rate in the treatment group is 1.9 percent and the missing rate in the control group is 0.9 percent. These very small missing rates mitigate concerns raised by the appearance of differential missingness.

For the short-term impact analysis, the analysis team interpreted the response “don’t know” or refusals to answer as indicating a negative response for a certain set of outcomes and covariates, where it made logical sense to do so. For example, if individuals did not positively indicate that they completed a college degree, we inferred that they did not complete a college degree even if they responded “don’t know” or refused to answer the question. The reason is

⁴ About 98 percent of names and SSNs were deemed valid by Social Security Administration records and subsequently matched to NDNH records. This match rate was generally stable across quarters.

⁵ The response rate to the survey differs for the treatment and control groups (response rates were 70 percent for the control group and 75 percent for the treatment group; the difference in response rates is statistically significant at the one percent level).

⁶ We impute values for the missing data in each of the elements (see Section B.3.1) before constructing the summary measures; consequently, the resulting summary measures, by construction, have no missing data.

that, if a person does not know whether she has a college degree, then she probably does not have a degree.

This type of logical imputation was used in fewer cases for the three-year analysis than in the short-term due to changes in the structure of the survey and construction of outcomes. For example, in the short-term follow-up survey, respondents were asked to report only whether they obtained a professional license; we logically inferred that they did not obtain a license if they failed to answer. In the three-year follow-up survey, respondents were asked to specify “don’t know” or a refusal to answer as well as the actual name of the license.

We determined that logical imputation was appropriate and used this strategy for the following measures:

- completed a degree (AA, BA or higher) since random assignment,
- currently enrolled in training,
- occupational skills license or certification prior to random assignment
- attained postsecondary degree prior to random assignment

As a result, in the analysis (and in Exhibit B.4) the count of missing observations is zero.

Exhibit B.4: Item Nonresponse for Analysis Variables from Survey

Domain	Variable	Source	Variable Type	Number Missing	Number Non-Missing	Total	Rate Missing	T/C Differential ^a
<i>Education-related Outcomes</i>								
Educational Progress	Training completion ^b	Survey	Binary	232	9,100	9,332	2.5%	
Educational Progress	Obtained certificate, license, or credential ^b	Survey	Binary	145	9,187	9,332	1.6%	***
Educational Progress	Completed college degree ^b	Survey	Binary	0	9,332	9,332	0.0%	
Educational Progress	Completed diploma or certificate for regular college classes ^b	Survey	Binary	200	9,132	9,332	2.1%	
Educational Progress	Completed vocational training certificate ^b	Survey	Binary	97	9,235	9,332	1.0%	**
Educational Progress	Currently enrolled in training ^b	Survey	Binary	0	9,332	9,332	0.0%	
Educational Progress	Perception of progress toward long-range educational goals	Survey	Binary	140	9,887	10,027	1.4%	
Career Knowledge	Confidence in career knowledge 1	Survey	Discrete	124	9,903	10,027	1.2%	
Career Knowledge	Confidence in career knowledge 2	Survey	Discrete	75	9,952	10,027	0.7%	
Career Knowledge	Confidence in career knowledge 3	Survey	Discrete	207	9,820	10,027	2.1%	
Career Knowledge	Confidence in career knowledge 4	Survey	Discrete	74	9,953	10,027	0.7%	
Career Knowledge	Confidence in career knowledge 5	Survey	Discrete	76	9,951	10,027	0.8%	
Career Knowledge	Confidence in career knowledge 6	Survey	Discrete	62	9,965	10,027	0.6%	
Career Knowledge	Confidence in career knowledge 7	Survey	Discrete	111	9,916	10,027	1.1%	
<i>Labor Market Outcomes</i>								
Employment in Healthcare	Current or most recent job is in healthcare ^b	Survey	Binary	31	9,301	9,332	0.3%	
Job Quality	Current or most recent job offers health insurance ^b	Survey	Binary	110	9,222	9,332	1.2%	
Income	Personal income received from all sources in the prior month	Survey	Continuous	659	9,368	10,027	6.6%	
Income	Household income received from all sources in the prior month	Survey	Continuous	597	9,430	10,027	6.0%	
Public Assistance	Individual receipt of TANF, SNAP, or Medicaid in prior month	Survey	Binary	78	9,949	10,027	0.8%	
Public Assistance	Personally received TANF in the prior month	Survey	Binary	70	9,957	10,027	0.7%	
Public Assistance	Personally received SNAP in the prior month	Survey	Binary	62	9,965	10,027	0.6%	
Public Assistance	Personally received Medicaid in the prior month	Survey	Binary	82	9,945	10,027	0.8%	

APPENDIX B: SAMPLE SIZES AND MISSING DATA

Domain	Variable	Source	Variable Type	Number Missing	Number Non-Missing	Total	Rate Missing	T/C Differential ^a
Economic Status	Used loans in either own name or parent's name to pay for school or living expenses since study enrollment	Survey	Binary	21	10,006	10,027	0.2%	
Barriers to Employment	Childcare arrangements were a barrier	Survey	Binary	23	10,004	10,027	0.2%	
Barriers to Employment	Transportation was a barrier	Survey	Binary	17	10,010	10,027	0.2%	
Barriers to Employment	An illness or health condition was a barrier	Survey	Binary	19	10,008	10,027	0.2%	
<i>General Wellbeing Outcomes</i>								
Self Evaluation	Core self-evaluation 1	Survey	Discrete	57	9,970	10,027	0.6%	
Self Evaluation	Core self-evaluation 2	Survey	Discrete	45	9,982	10,027	0.4%	
Self Evaluation	Core self-evaluation 3	Survey	Discrete	32	9,995	10,027	0.3%	
Self Evaluation	Core self-evaluation 4	Survey	Discrete	37	9,990	10,027	0.4%	
Self Evaluation	Core self-evaluation 5	Survey	Discrete	23	10,004	10,027	0.2%	
Self Evaluation	Core self-evaluation 6	Survey	Discrete	68	9,959	10,027	0.7%	
Self Evaluation	Core self-evaluation 7	Survey	Discrete	31	9,996	10,027	0.3%	
Self Evaluation	Core self-evaluation 8	Survey	Discrete	102	9,925	10,027	1.0%	
Self Evaluation	Core self-evaluation 9	Survey	Discrete	74	9,953	10,027	0.7%	
Self Evaluation	Core self-evaluation 10	Survey	Discrete	94	9,933	10,027	0.9%	
Self Evaluation	Core self-evaluation 11	Survey	Discrete	38	9,989	10,027	0.4%	
Self Evaluation	Core self-evaluation 12	Survey	Discrete	72	9,955	10,027	0.7%	*
Stress	Perceived stress 1	Survey	Discrete	50	9,977	10,027	0.5%	
Stress	Perceived stress 2	Survey	Discrete	42	9,985	10,027	0.4%	
Stress	Perceived stress 3	Survey	Discrete	43	9,984	10,027	0.4%	
Stress	Perceived stress 4	Survey	Discrete	47	9,980	10,027	0.5%	**
<i>Child-Related Outcomes^c</i>								
Child Development	Parent believes child will complete some school beyond high school	Survey	Binary	116	3,151	3,307	3.5%	
Child Development	Child believes s/he will complete some school beyond high school	Survey	Binary	1,115	2,152	3,307	33.7%	
Child Development	Child development of academic skills 1 (preschool)	Survey	Discrete	15	735	750	2.0%	***
Child Development	Child development of academic skills 2 (preschool)	Survey	Discrete	71	679	750	9.5%	

APPENDIX B: SAMPLE SIZES AND MISSING DATA

Domain	Variable	Source	Variable Type	Number Missing	Number Non-Missing	Total	Rate Missing	T/C Differential^a
Child Development	Child development of academic skills 3 (preschool)	Survey	Discrete	38	712	750	5.1%	*
Child Development	Child development of socio-emotional skills 1 (preschool)	Survey	Discrete	5	745	750	0.7%	
Child Development	Child development of socio-emotional skills 2 (preschool)	Survey	Discrete	5	745	750	0.7%	
Child Development	Child development of socio-emotional skills 3 (preschool)	Survey	Discrete	4	746	750	0.5%	
Child Development	Child development of socio-emotional skills 4 (preschool)	Survey	Discrete	6	744	750	0.8%	
Child Development	Child development of socio-emotional skills 5 (preschool)	Survey	Discrete	3	747	750	0.4%	
Child Development	Child development of socio-emotional skills 6 (preschool)	Survey	Discrete	3	747	750	0.4%	
Child Development	Child development of academic skills 1 (K-5)	Survey	Discrete	24	1,448	1,472	1.6%	
Child Development	Child development of academic skills 2 (K-5)	Survey	Discrete	25	1,447	1,472	1.7%	
Child Development	Child development of socio-emotional skills 1 (K-5)	Survey	Discrete	11	1,461	1,472	0.7%	
Child Development	Child development of socio-emotional skills 2 (K-5)	Survey	Discrete	11	1,461	1,472	0.7%	
Child Development	Child development of socio-emotional skills 3 (K-5)	Survey	Discrete	11	1,461	1,472	0.7%	
Child Development	Child development of socio-emotional skills 4 (K-5)	Survey	Discrete	10	1,462	1,472	0.7%	
Child Development	Child development of socio-emotional skills 5 (K-5)	Survey	Discrete	13	1,459	1,472	0.9%	
Child Development	Child development of socio-emotional skills 6 (K-5)	Survey	Discrete	12	1,460	1,472	0.8%	
Child Development	Parental perception of student achievement (6-12)	Survey	Binary	9	1,036	1,045	0.9%	
School-Related Risk	Repeat grade (K-12)	Survey	Binary	13	2,504	2,517	0.5%	
School-Related Risk	Schoolwork–Teacher contact (K-12)	Survey	Binary	34	2,483	2,517	1.4%	
School-Related Risk	Absent more than two days last month (K-12)	Survey	Binary	50	2,467	2,517	2.0%	
School-Related Risk	Late more than two days last month (K-12)	Survey	Binary	55	2,462	2,517	2.2%	

APPENDIX B: SAMPLE SIZES AND MISSING DATA

Domain	Variable	Source	Variable Type	Number Missing	Number Non-Missing	Total	Rate Missing	T/C Differential ^a
School-Related Risk	Behavior-Teacher contact (K-12)	Survey	Binary	33	2,484	2,517	1.3%	
School-Related Risk	Suspend/expel in current school year (K-12)	Survey	Binary	23	2,494	2,517	0.9%	

Notes: This table focuses on item nonresponse and excludes people who did not complete the survey at all.

^a "T/C Differential" column reports results of statistical test for equality of rate missing between the treatment and control groups. Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

^b Sample excludes survey skipouts.

^c These variables were not collected for PACE participants, so the sample size for the variable reflects only HPOG participants. Some survey questions were grade-specific. The target grades for those questions are indicated in parentheses in the "Variable" column.

Sources: Three-year survey

Similarly, Exhibit B.5 reports on missing data for outcomes and baseline covariates obtained from administrative data sources. Administrative data from NDNH, the HPOG Performance Reporting System (PRS), and the PACE Basic Information Form (BIF) are available for survey nonrespondents. For each row in the exhibit, the number of missing and non-missing sum to 13,716. This is the full study sample, including all randomized individuals who had not withdrawn consent.

The NDNH data contain individual quarterly earnings from state Unemployment Insurance (UI) records and from some employers not included in the UI program (e.g., the federal government). The NDNH does not include earnings from private-sector jobs that are not subject to UI, which includes self-employment (e.g., work as an independent contractor); work at small farms, railroads, and selected nonprofit organizations (particularly churches); and casual or irregular jobs. Together, these exclusions cover about 12 percent of the civilian workforce.⁷

Each quarter, we submit sample members' social security numbers (SSN) and names to the federal Office of Child Support Enforcement (OCSE) in the Administration for Children and Families (ACF), which maintains the NDNH, to match to the NDNH database and receive quarterly wage data for the previous eight quarters. OCSE submits the SSNs and names of our HPOG participants to the Social Security Administration for verification, before using these identifiers to match to the NDNH database and generate a wage file. Any record not verified by the Social Security Administration is eliminated from the match process and flagged as a verification error.

Generally, individuals for whom we do not observe quarterly earnings in a particular quarter were not employed in that quarter. However, some of these individuals may have been employed and the observations missing due to issues matching administrative records. To distinguish between being unemployed and having missing NDNH data, we make the following assumptions:

- If an individual appears in the quarterly wage file for any quarter, we assume that quarters for which we do not observe earnings reflect periods of unemployment.
- If an individual never appears in the quarterly wage file and he or she does not appear on the list of verification errors, we assume he or she was unemployed for all quarters.
- If an individual never appears in the quarterly wage file and he or she appears on the list of verification errors in any quarter, we treat the NDNH-derived earnings and employment data as missing for all quarters.

⁷ According to the Bureau of Labor Statistics, about 10 percent of workers are self-employed (Hipple and Hammond 2017). After excluding the self-employed, another 3 percent of workers are not covered by UI (Manning and Stewart 2017). Given that there are about 1.9 million federal civilian employees (about 1.3 percent of total U.S. civilian employment) who are covered by the non-UI data in NDNH, this implies that the NDNH is missing about 12 percent of U.S. civilian workers: the 10 percent who are self-employed and the 1.7 percent or so of other uncovered civilian employees.

Two percent of NDNH outcomes data and 11 percent of NDNH baseline data are missing.^{8,9} As described in the *Three-Year Analysis Plan*, these missing data are treated as item nonresponse and addressed using multiple imputation.

Unit nonresponse is not a concern for baseline measures from the PRS, BIF, and SAQ as completion of these forms was required prior to random assignment. However, as some individuals chose not to answer specific items, item nonresponse for baseline covariates from these sources is as high as 5 percent.

⁸ The rate of missing data is higher for baseline measures because some PACE control group members were added to the match file more than a quarter after their study enrollment. For the PACE control group members randomly assigned before September 30, 2013, the eight quarters of NDNH data covered the quarter of random assignment but did not include a sufficient number of pre-random assignment quarters to calculate baseline covariates.

⁹ For a few wage records, the quarterly wages were unreasonably large and appeared to be entered incorrectly. We therefore considered earnings to be missing if reported wages were \$25,000 per quarter or larger. For the confirmatory outcome (earnings in the 12th-13th quarters after random assignment), earnings for 58 individuals were missing for this reason. We did not treat employment data as missing in these cases because wages were reported, even if the reports were inaccurate. Therefore, there are 58 more missing observations for earnings than for employment in the 12th-13th quarters after random assignment.

Exhibit B.5: Item Nonresponse for Analysis Variables from Administrative Data

Domain	Variable	Source	Variable Type	Number Missing	Number Non-Missing	Total	Rate Missing (%)	T/C Differential ^a
<i>Employment Outcomes</i>								
Employment	Employment in Q12 or Q13	NDNH	Binary	277	13,439	13,716	2.0	**
Employment	Employment in Q13	NDNH	Binary	277	13,439	13,716	2.0	**
Employment	Employment in Q12	NDNH	Binary	277	13,439	13,716	2.0	**
Employment	Employment in Q11	NDNH	Binary	277	13,439	13,716	2.0	**
Employment	Employment in Q10	NDNH	Binary	277	13,439	13,716	2.0	**
Employment	Employment in Q9	NDNH	Binary	277	13,439	13,716	2.0	**
Employment	Employment in Q8	NDNH	Binary	277	13,439	13,716	2.0	**
Employment	Employment in Q7	NDNH	Binary	277	13,439	13,716	2.0	**
Employment	Employment in Q6	NDNH	Binary	277	13,439	13,716	2.0	**
Employment	Employment in Q5	NDNH	Binary	277	13,439	13,716	2.0	**
Employment	Employment in Q4	NDNH	Binary	277	13,439	13,716	2.0	**
Employment	Employment in Q3	NDNH	Binary	277	13,439	13,716	2.0	**
Employment	Employment in Q2	NDNH	Binary	277	13,439	13,716	2.0	**
Employment	Employment in Q1	NDNH	Binary	277	13,439	13,716	2.0	**
Employment	Cumulative employment (Q1-Q13)	NDNH	Binary	277	13,439	13,716	2.0	**
<i>Earnings Outcomes</i>								
Earnings	Earnings in Q12 and Q13	NDNH	Continuous	335	13,381	13,716	2.4	*
Earnings	Earnings in Q13	NDNH	Continuous	318	13,398	13,716	2.3	**
Earnings	Earnings in Q12	NDNH	Continuous	311	13,405	13,716	2.3	
Earnings	Earnings in Q11	NDNH	Continuous	302	13,414	13,716	2.2	*
Earnings	Earnings in Q10	NDNH	Continuous	306	13,410	13,716	2.2	
Earnings	Earnings in Q9	NDNH	Continuous	303	13,413	13,716	2.2	
Earnings	Earnings in Q8	NDNH	Continuous	301	13,415	13,716	2.2	**
Earnings	Earnings in Q7	NDNH	Continuous	293	13,423	13,716	2.1	*
Earnings	Earnings in Q6	NDNH	Continuous	297	13,419	13,716	2.2	**
Earnings	Earnings in Q5	NDNH	Continuous	294	13,422	13,716	2.1	*
Earnings	Earnings in Q4	NDNH	Continuous	287	13,429	13,716	2.1	**
Earnings	Earnings in Q3	NDNH	Continuous	286	13,430	13,716	2.1	**
Earnings	Earnings in Q2	NDNH	Continuous	285	13,431	13,716	2.1	**

APPENDIX B: SAMPLE SIZES AND MISSING DATA

Domain	Variable	Source	Variable Type	Number Missing	Number Non-Missing	Total	Rate Missing (%)	T/C Differential ^a
Earnings	Earnings in Q1	NDNH	Continuous	284	13,432	13,716	2.1	*
Earnings	Cumulative earnings (Q1-Q13)	NDNH	Continuous	404	13,312	13,716	2.9	
<i>Career Progress Outcomes^b</i>								
Career Progress	Training completion and earnings growth	NDNH and Survey	Continuous	323	9,009	9,332	3.5	
Earnings Growth	Earnings growth	NDNH	Binary	263	9,069	9,332	2.8	
<i>Baseline Covariates</i>								
Dependent Children	Parent to one or more dependent children	PRS/BIF	Binary	745	12,971	13,716	5.4	***
Race/Ethnicity	Ethnicity (Hispanic/Latino) and race	PRS/BIF	Binary	266	13,450	13,716	1.9	***
Born Outside U.S.	Born outside the U.S.	PRS/BIF	Binary	482	13,234	13,716	3.5	***
Education	Attained postsecondary degree prior to random assignment	PRS/BIF	Binary	0	13,716	13,716	0.0	
Education	Occupational Skills License or Certification prior to random assignment	PRS/BIF	Binary	0	13,716	13,716	0.0	
Earnings	Average quarterly wage received during the four quarters prior to the quarter of random assignment	NDNH	Continuous	1,474	12,242	13,716	10.7	***
Employment	Proportion of quarters employed during the four quarters prior to the quarter of random assignment	NDNH	Continuous	1,472	12,244	13,716	10.7	***
Public Assistance	SNAP/WIC Indicator	PRS/BIF	Binary	395	13,321	13,716	2.9	***

Notes:

^a "T/C Differential" column reports results of statistical test for equality of rate missing between the treatment and control groups. Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

^b Sample excludes survey skipouts

Overall, the percentages in the final columns of Exhibits B.4 and B.5 suggest a low incidence of item nonresponse in both the survey and administrative data sources. One exception is the child-related outcome in which the parent reports that the child believes he or she will complete some school beyond high school. For this question, a substantial number of parents reported that their child had not indicated whether they expect to complete any post-secondary education.¹⁰

B.3.1 Technical Approach to Handling Missing Data

We use two analytic strategies to address missing data:

- **Nonresponse reweights** to address the risk of selection bias due to unit nonresponse (or sections missing due to survey skipout). We generate two separate sets of nonresponse weights: one for survey nonresponse and one for survey skipouts. In each case we generate weights by estimating the probability of that outcome (response to the survey or not skipping out of the survey).¹¹ Then, we stratify individuals by their estimated probabilities and produce weights equal to the inverse of the average probability for each stratum. This procedure assigns a larger weight to the responses from individuals who were least likely to have that outcome.¹²
- **Multiple imputation** to address item nonresponse. We use a model-based approach to generate multiple imputed values, each saved as a separate dataset. We include both covariates and outcome measures into an empirical model that produces a plausible replacement value for the missing item.¹³ Then, we conduct our analyses on each dataset separately and combine the estimates. This procedure incorporates the variation that comes from the uncertainty in the missing values to our standard errors.

As in the *Short-Term Impacts Report* (Peck et al. 2018), we use bootstrapping to estimate the variance of our impact estimates. To implement the bootstrap, we resample individuals using a predetermined number of replications from our data, incorporate our nonresponse weights in the resampling, and redo the imputation within each replication.¹⁴ We then run the full analysis model on each of the replications, collect all the impact estimates, and compute the standard error of our impact estimate to be the standard deviation across those estimates. This procedure allows for interactions between the reweighting and bootstrapping to be captured in our estimates of variance.

¹⁰ Appendix G includes a sensitivity analysis in which we estimate the impact on child educational aspirations for respondents who provided an answer to this question. The impact is similar to that of the full sample with imputed data.

¹¹ We estimate probabilities using a logistic regression model that includes covariates in the following domains: baseline demographics, baseline education background measures, baseline income and benefits measures, baseline employment and expected time use measures, and baseline life challenges measures (Harvill et al. 2018).

¹² We generate weights reflecting survey skipout by restrict the sample to survey respondents and predicting the probability of skipout. For analyses that include both nonresponse weights and survey skipout weights, we create one set of weights by multiplying together our overall nonresponse weights and the skipout weights.

¹³ The model includes the same covariates as our analysis model. We also include outcome measures in these models. To limit the number of variables in the model, we separately impute clusters of outcomes that appear in the same table in the report's main body. We include all outcomes in the cluster in those imputation models.

¹⁴ As a sensitivity check we also tested a bootstrapping model that resampled programs instead of individuals. The standard errors from the two procedures did not differ from each other (in either statistical or practical terms).

APPENDIX B: SAMPLE SIZES AND MISSING DATA

These procedures use the same methods and covariates as the *Short-Term Impacts Report*. For further details on these procedures, see the full technical description in the *Three-Year Analysis Plan*.

How to Read the Impact Tables in This Report Appendix

Many of the impact tables in this appendix contain similar content to the tables in the report's main body, but with more details. For example, the sample table below presents HPOG's impact on study participants' training completion.

The first six columns are structured in the same way as the impact tables in the *Three-Year Impacts Report*.

- The table reports the level of the outcome for both the treatment and control groups. The numbers in the table below show that 75 percent of the treatment group and 63 percent of the control group completed training during the follow-up period.
- The level of evidence column indicates whether the outcome is confirmatory, secondary, or exploratory
- The difference between the two mean outcomes is the impact of being in the treatment group. The table reports an impact of 13 percentage points.
- Impacts marked with one or more symbols are statistically significant, indicating that it is unlikely that the impact is due to chance. We use hashtags (#) as symbols for one-sided tests and asterisks (*) as symbols for two-sided tests. The number of symbols indicates whether the impact is statistically significant at the 10 percent (*), 5 percent (**), or 1 percent (***) level.
- The relative impact in the next column is computed as the impact divided by the control group mean. This relative impact is informative about the magnitude of the treatment-control difference.

The next five columns provide technical details which are not included in the tables in the body of the report.

- The standard error quantifies the precision of the impact estimate. The standard error reflects the size of the sample, the multi-level structure of the model, and the variability of the outcome after controlling for baseline covariates. A smaller standard error indicates a more precise estimate.
- The 90 percent confidence interval summarizes the precision of the impact estimate in a different way. Had we re-run our experiment many times, we would expect the impact estimate to fall in this interval 90 percent of the time. Thus, values within the interval are alternative values of the impact that are not statistically distinguishable from our reported point estimate of the impact. Values outside the interval are statistically different from the reported impact. This column is particularly useful for drawing conclusions about findings that are not statistically significant because it places bounds on possible impacts. For one-sided tests, the confidence interval is bounded by infinity (for upper one-sided tests) or negative infinity (for lower one-sided tests), because the one-sided test only evaluates directionality: whether the impact is greater than zero (for upper one-sided tests) or less than zero (for lower one-sided tests).
- The minimum detectable effect (MDE) is the smallest true impact we expect to be able to detect given the variability we observe in our data. To calculate the MDE, we set the level of significance to 10 percent and power to 80 percent. This column is also useful for interpreting findings that are not statistically significant because it indicates how large the effect would have needed to be to be detected 80 percent of the time at the 10 percent level (the equivalent of one asterisk).
- Finally, the two right most columns report the sample sizes separately for the treatment and control groups.

Outcome	Level of Evidence	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Training Completion (%)	Confirmatory	75.2	62.7	12.5###	19.9	1.1	(11.1, ∞)	2.3	6,027	3,305

Notes: Confirmatory and secondary findings use a one-sided hypothesis test, and exploratory findings use a two-sided hypothesis test.

Statistical significance levels for one-sided tests are indicated with hashtags, as follows: ### = 1 percent; ## = 5 percent; # = 10 percent.

Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sources: Three-year survey.

Appendix C. Supplemental Materials for Chapter 3

This appendix presents more detailed versions of the exhibits in Chapter 3 (“Impacts on Educational Progress”). The appendix also provides additional details on the operationalization of certain outcomes.

C.1 Impacts of HPOG on Educational Progress: Supplemental Materials

Exhibit C.1: Impacts on Educational Progress: Supplementary Materials

Outcome	Level of Evidence	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Training completion (%)	Confirmatory	75.2	62.7	12.5###	19.9	1.1	(11.1, ∞)	2.3	6,027	3,305
Obtained certificate, license, or credential (%)	Exploratory	58.1	45.4	12.7***	28.0	1.2	(10.7, 14.6)	2.9	6,027	3,305
Completed diploma or certificate for regular college classes (%)	Exploratory	17.7	11.2	6.4***	57.4	1.0	(4.7, 8.1)	2.6	6,027	3,305
Completed vocational training certificate (%)	Exploratory	21.7	14.0	7.7***	55.4	0.8	(6.4, 9.1)	2.1	6,027	3,305
Completed college degree (%)	Exploratory	23.0	23.0	0.0	-0.1	1.1	(-1.8, 1.7)	2.7	6,027	3,305
Months of full-time equivalent enrollment	Exploratory	7.6	6.8	0.8***	11.1	0	(0.4, 1.1)	0.5	6,027	3,305
Earned ≥ 1 year college certificate or degree	Exploratory	27.0	25.5	1.5	5.8	1.1	(-0.4, 3.3)	2.8	6,027	3,305
Currently enrolled in training (%)	Exploratory	13.0	13.3	-0.2	-1.6	0.8	(-1.5, 1.1)	2.0	6,027	3,305
Confidence in career knowledge (range is 1 to 4)	Secondary	3.40	3.37	0.03##	0.8	0.01	(0.01, ∞)	0.03	6,476	3,551
Earned any college credits (%)	Exploratory	36.4	34.4	2.0*	5.8	1.2	(0.1, 3.9)	2.9	6,027	3,305
Perception of progress toward long-range educational goals (%)	Exploratory	75.2	71.1	4.2***	5.9	0.9	(2.6, 5.7)	2.3	6,476	3,551

Notes: Confirmatory and secondary findings use a one-sided hypothesis test, and exploratory findings use a two-sided hypothesis test. Statistical significance levels for one-sided tests are indicated with hashtags, as follows: ### = 1 percent; ## = 5 percent; # = 10 percent. Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sources: Three-year survey.

C.2 Measurement of Educational Progress Outcomes

In this section, we provide additional detail regarding the construction of key educational progress outcomes, in order to supplement the general description of outcomes provided in the *Three-Year Analysis Plan*, where needed.

All of the educational progress outcomes in Exhibit C.1 are based on self-reported survey responses. In the three-year survey, participants were asked to report whether they received one of four types of credentials—college degree, college certificate, vocational certificate, and professional license—as well as the name and duration of each credential. Although the survey questions were intended to measure completion of college or vocational training, some respondents reported certificates that either did not reflect college or vocational training (e.g., perfect attendance certificate) or were too short to be considered meaningful training (e.g., a one-day CPR certificate).

We manually reviewed each of the reported credential names to assess whether they should be counted towards the relevant degree, certificate, or professional license outcome. Credentials that either did not reflect college or vocational training or did not reflect meaningful training were not counted in the construction of the relevant outcome. A small number of respondents reported a credential but did not report the credential name; we treated these cases as if the credential were missing and applied our standard multiple imputation procedure described in Appendix B.

For two of the educational progress outcomes—college degree and professional license—both the short-term and three-year follow-up surveys asked respondents to report whether they received one of these credentials. To capture all self-reported training completion and reduce the risk of recall bias, we used both the short-term and three-year responses in the construction of the outcome. That is, respondent are considered to have earned a college degree if they reported a college degree in either the short-term or three-year follow-up survey (and similarly for professional license). For respondents who did not respond to the short-term survey, we first applied our standard multiple imputation procedure for their short-term outcomes before constructing the three-year outcomes.

Appendix D. Supplemental Materials for Chapter 4

This appendix presents more detailed versions of the exhibits in Chapter 4 (“Impacts on Labor Market Outcomes”), as follows:

- Section D.1 presents supplementary materials for impacts on earnings.
- Section D.2 presents supplementary materials for impacts on employment and employment conditions.
- Section D.3 presents impacts on weekly hours, weekly earnings, and wages.
- Section D.4 presents the analysis of time trends of employment and earnings.
- Section D.5 presents the analysis of training type and occupation field.

D.1 Impacts of HPOG on Earnings: Supplemental Materials

Exhibit D.1: Impacts on Earnings: Supplementary Materials

Outcome	Level of Evidence	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Average quarterly earnings during the 12th and 13th quarters (\$) ^a	Confirmatory	5,039	4,997	42	0.8	78	(-59, ∞)	166	8,672	5,044
Training completion and earnings growth (%) ^b	Secondary	43.0	36.2	6.8 ^{###}	18.9	1.1	(5.4, ∞)	2.3	6,027	3,305
Earnings growth (%) ^a	Exploratory	57.7	57.3	0.4	0.7	1.1	(-1.4, 2.2)	2.7	6,027	3,305
Earnings in Q13 (\$) ^a	Exploratory	5,117	5,079	38	0.8	80	(-93, 170)	199	8,672	5,044
Earnings in Q12 (\$) ^a	Exploratory	4,965	4,915	50	1.0	84	(-88, 189)	210	8,672	5,044
Earnings in Q11 (\$) ^a	Exploratory	4,777	4,734	43	0.9	84	(-94, 180)	208	8,672	5,044
Earnings in Q10 (\$) ^a	Exploratory	4,685	4,601	85	1.8	88	(-59, 228)	218	8,672	5,044
Earnings in Q9 (\$) ^a	Exploratory	4,502	4,471	30	0.7	90	(-116, 177)	223	8,672	5,044
Earnings in Q8 (\$) ^a	Exploratory	4,259	4,196	63	1.5	85	(-76, 202)	210	8,672	5,044
Earnings in Q7 (\$) ^a	Exploratory	4,076	3,935	140*	3.6	82	(6, 275)	204	8,672	5,044
Earnings in Q6 (\$) ^a	Exploratory	3,809	3,721	88	2.4	82	(-46, 222)	204	8,672	5,044
Earnings in Q5 (\$) ^a	Exploratory	3,654	3,526	128	3.6	81	(-4, 260)	200	8,672	5,044
Earnings in Q4 (\$) ^a	Exploratory	3,279	3,217	62	1.9	77	(-65, 189)	193	8,672	5,044
Earnings in Q3 (\$) ^a	Exploratory	2,862	2,868	-6	-0.2	65	(-112, 101)	161	8,672	5,044
Earnings in Q2 (\$) ^a	Exploratory	2,387	2,571	-184 ^{***}	-7.1	55	(-274, -93)	137	8,672	5,044
Earnings in Q1 (\$) ^a	Exploratory	1,846	2,129	-284 ^{***}	-13.3	47	(-360, -207)	116	8,672	5,044

Notes: Confirmatory and secondary findings use a one-sided hypothesis test, and exploratory findings use a two-sided hypothesis test.

Statistical significance levels for one-sided tests are indicated with hashtags, as follows: ^{###} = 1 percent; ^{##} = 5 percent; [#] = 10 percent.

Statistical significance levels for two-sided tests are indicated with asterisks, as follows: ^{***} = 1 percent; ^{**} = 5 percent; ^{*} = 10 percent.

Sources: National Directory of New Hires and three-year survey.

^a National Directory of New Hires.

^b National Directory of New Hires and three-year survey.

D.2 Impacts of HPOG on Employment: Supplemental Materials

Exhibit D.2: Impacts on Employment: Supplementary Materials

Outcome	Level of Evidence	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Employment in 12th or 13th quarter (%)	Secondary	82.0	81.0	1.0 [#]	1.2	0.7	(-0.2, 2.2)	1.5	8,672	5,044
Employment in Q13 (%)	Exploratory	77.0	76.2	0.8	1.0	0.8	(-0.5, 2.0)	1.9	8,672	5,044
Employment in Q12 (%)	Exploratory	77.4	76.3	1.1	1.5	0.8	(-0.2, 2.4)	2.0	8,672	5,044
Employment in Q11 (%)	Exploratory	77.0	75.6	1.3 [*]	1.8	0.7	(0.1, 2.6)	1.9	8,672	5,044
Employment in Q10 (%)	Exploratory	76.6	75.9	0.7	0.9	0.8	(-0.6, 2.0)	2.0	8,672	5,044
Employment in Q9 (%)	Exploratory	75.9	76.0	-0.1	-0.1	0.8	(-1.4, 1.2)	2.0	8,672	5,044
Employment in Q8 (%)	Exploratory	75.4	75.2	0.2	0.2	0.8	(-1.1, 1.4)	1.9	8,672	5,044
Employment in Q7 (%)	Exploratory	74.7	73.6	1.1	1.5	0.8	(-0.2, 2.4)	2.0	8,672	5,044
Employment in Q6 (%)	Exploratory	73.1	73.3	-0.2	-0.3	0.9	(-1.7, 1.3)	2.3	8,672	5,044
Employment in Q5 (%)	Exploratory	72.6	72.0	0.6	0.8	0.9	(-0.9, 2.0)	2.2	8,672	5,044
Employment in Q4 (%)	Exploratory	70.4	69.2	1.2	1.7	0.9	(-0.3, 2.6)	2.2	8,672	5,044
Employment in Q3 (%)	Exploratory	67.1	67.6	-0.5	-0.7	0.9	(-2.0, 1.0)	2.3	8,672	5,044
Employment in Q2 (%)	Exploratory	63.3	65.1	-1.8 ^{**}	-2.8	0.9	(-3.3, -0.3)	2.2	8,672	5,044
Employment in Q1 (%)	Exploratory	56.4	61.0	-4.6 ^{***}	-7.6	1.0	(-6.2, -3.1)	2.4	8,672	5,044

Notes: Confirmatory and secondary findings use a one-sided hypothesis test, and exploratory findings use a two-sided hypothesis test. Statistical significance levels for one-sided tests are indicated with hashtags, as follows: ### = 1 percent; ## = 5 percent; # = 10 percent. Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Sources: National Directory of New Hires.

Exhibit D.3: Impacts on Other Labor Market Outcomes: Supplementary Materials

Outcome	Level of Evidence	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Current or most recent job is in healthcare	Secondary	55.6	43.9	11.6 ^{###}	26.5	1.1	(10.2, ∞)	2.4	6,027	3,305
Current or most recent job offers health insurance	Secondary	58.5	56.2	2.3 ^{##}	4.1	1.2	(0.8, ∞)	2.5	6,027	3,305
Currently employed in a healthcare job	Exploratory	46.9	37.6	9.3 ^{***}	24.6	1.1	(7.4, 11.1)	2.8	6,027	3,305
Employed at follow-up (%)	Exploratory	71.9	69.9	2.0 ^{**}	2.9	0.9	(0.5, 3.5)	2.3	6,027	3,305
Supportive working environment	Exploratory	41.1	37.7	3.4 ^{***}	8.9	1.1	(1.6, 5.2)	2.7	6,027	3,305
Self-employed at follow-up (%)	Exploratory	2.0	2.2	-0.2	-8.8	0.3	(-0.7, 0.3)	0.8	6,027	3,305

Notes: Confirmatory and secondary findings use a one-sided hypothesis test, and exploratory findings use a two-sided hypothesis test. Statistical significance levels for one-sided tests are indicated with hashtags, as follows: ^{###} = 1 percent; ^{##} = 5 percent; [#] = 10 percent. Statistical significance levels for two-sided tests are indicated with asterisks, as follows: ^{***} = 1 percent; ^{**} = 5 percent; ^{*} = 10 percent. Sources: Three-year survey.

D.3 Impacts of HPOG on Weekly Earnings, Weekly Hours, and Wages

In this section, we explore in more detail the impact on employment and earnings. Although there is no overall impact on earnings, there is evidence that HPOG increased overall employment by a small amount. Taken together, increased employment with no increase in earnings seems inconsistent, which suggests value to further analysis. Because the NDNH does not include data on the hours someone works, we explore survey-reported earnings and decompose the earnings impact into its component parts: average weekly hours and average hourly wage.

Measuring impacts on hours and wages (component parts of earnings) poses a methodological challenge because earnings, wages, and hours have nonzero values only for people who are employed. In the main report's analyses of employment and earnings, we would consider individuals who were not employed, by definition, to have worked zero hours, and to have zero earnings. However, this approach cannot be extended to wages: if we treat people who are not employed as having worked zero hours and having zero earnings, then a calculation of hourly wages from these data involves dividing by zero, which results in an undefined wage. The solution is to conduct the analysis at the aggregate (rather than individual) level. It is possible to divide each experimental group's average earnings and average hours worked: these are both nonzero values, the quotient of which is the group's mean hourly wages. This approach produces what is labelled a "pseudo-wage" (Martinson et al. 2016).

To construct the pseudo-wage, we used our standard analysis approach to estimate impacts on weekly hours worked and on earnings.^{15,16} Then, from these results we computed the:

- Control group mean wage as the average control group weekly earnings divided by the average control group weekly hours;
- Treatment group mean wage as the average treatment group weekly earnings divided by the average treatment group weekly hours; and
- The impact on hourly wages as the difference between the treatment group mean wage and the control group mean wage, at the group-aggregate level.

We bootstrapped the standard errors as described in Appendix B. The results of this decomposition analysis appear in Exhibit D.4.

This analysis shows evidence that HPOG had an impact on survey-reported weekly earnings. The treatment group's average weekly earnings (of \$371) was \$15 per week greater than the control group's average weekly earnings (of \$355), a difference that represents a 4 percent increase. There is no evidence that HPOG had an impact either on weekly hours or on the hourly wage. Both the treatment and control groups worked between 23 and 24 hours per week, on average, for a wage of just above \$15 per hour, with no detectable impact.

¹⁵ Measures of hours worked per week were only available from survey data. We constructed weekly earnings from survey data by multiplying reported hours worked and reported hourly wage.

¹⁶ The models do not include NDNH baseline earnings and employment covariates because the particular survey items measuring weekly earnings and hours were not linked to the NDNH administrative data.

These findings on survey-reported earnings are similar to, but not exactly the same as, the NDNH results: the impact of \$42 per quarter is equivalent to an impact of about \$3 per week (\$42 per quarter/13 weeks per quarter), while quarterly earnings of \$4,997 for the control group is equal to about \$384 per week (\$4,997 per quarter/13 weeks per quarter).¹⁷ Prior research has found that estimated impacts on earnings differ by data source, with survey-based impacts often being larger than impacts estimated from administrative data (Barnow and Greenberg, forthcoming).

Both the treatment and control groups experienced increases in weekly earnings and wages since the short-term report. In the short-term report, both groups worked between 23 and 24 hours per week, at a wage of less than \$13 per hour, for a total of about \$300 in earnings per week. The increase in average wage from less than \$13 per hour to over \$15 per hour appears to be driving the increase in weekly earnings between the short-term and three-year follow-up. The rise in wages is consistent with additional job experience since the short-term follow-up, as well as additional training acquired since that time.

¹⁷ We did not formally test for differences in impacts between NDNH-based and survey-based outcomes, due to restrictions on the level of detail from the survey that could be linked to the NDNH data.

Exhibit D.4: Impacts on Weekly Earnings, Weekly Hours, and Hourly Wages

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Weekly Earnings	370.66	355.21	15.45*	4.3	9.02	(0.66,30.25)	22.43	6,027	3,305
Weekly Hours	23.97	23.45	0.52	2.2	0.45	(-0.22,1.26)	1.13	6,027	3,305
Hourly Wage (Pseudo Wage)	15.46	15.14	0.32	2.1	0.22	(-0.04,0.67)	0.54	6,027	3,305

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sources: Three-year survey

D.4 Time Trend Analysis of Employment and Earnings

This section explores the trend in employment and earnings over individual quarters from prior to baseline, baseline, and over the three years after random assignment. This analysis is described in detail in Section 4.2 of the *Three-Year Analysis Plan*.

To implement this analysis we must reshape the data to reflect employment and earnings for *individuals by quarter*. Then, we add several additional variables to the impact estimation model:

- the quarter since random assignment;
- the square of the quarter since random assignment;
- the interaction between treatment and the quarter since random assignment;
- the interaction between treatment and the square of the quarter since random assignment; and
- random effects for treatment, treatment x quarter, and treatment x quarter² at the individual and program levels.¹⁸

Exhibit D.5 reports the results of estimating this model. Each of the columns contains a regression coefficient corresponding to an element in the time trend analysis model:

- the Treatment column reports the estimated average effect of treatment in quarter zero;
- the Quarter and Quarter² columns report the estimated overall trends in employment and earnings, irrespective of treatment or control group;
- the interaction between Quarter/Quarter² and Treatment allows for the estimated trends to vary for the treatment and control groups.

Though not reported, the regression model also includes covariates and random effects at the individual and program levels for the constant term, treatment, treatment x quarter, and treatment x quarter². Estimates in Exhibit D.5 are subject to the caveat that our results only hold if our analysis model has the correct functional form.¹⁹

¹⁸ The *Three-Year Analysis Plan* stated that we would estimate a model with random effects at the individual, division, and program levels. Due to issues with model convergence, we dropped the random effects on quarter and quarter² at all levels and all random effects at the division level.

¹⁹ As a sensitivity check we also estimated the models with other functional forms. For example, we estimated models that separately excluded the quadratic terms and the linear terms from the specification described here. Results from these analyses did not differ from those in Exhibit D.5.

Exhibit D.5: Impacts on Time Trend for Employment and Earnings

Outcome	Treatment	Quarter	Treatment x Quarter	Quarter ²	Treatment x Quarter ²	Joint Test
Employment in 12th or 13th quarter (%)	-0.8 (0.8)	1.9*** (0.0)	0.1 (0.1)	-0.1*** (-0.1)	-0.0 (0.0)	
Average quarterly earnings during the 12th and 13th quarters (\$)	30 (58)	189*** (3)	2 (13)	1*** (0)	1 (1)	

Notes: Table reports coefficients from analysis model described in Section 4.2 of the *Three-Year Analysis Plan*. Standard errors appear in parentheses.

Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Statistical significance levels for joint test that Treatment x Quarter and Treatment x Quarter² differ from zero are indicated as follows: † = 10 percent.

Sources: National Directory of New Hires.

Exhibit D.5 shows large effects for quarter and quarter², indicating strong upward trends in employment and earnings. However, there is no evidence of impact of HPOG on these trends. As noted in the *Three-Year Analysis Plan*, the test of interest to determine whether the trends differ is the joint test on the interaction of treatment with quarter and treatment with quarter². The right-most column shows that these interactions are not detectably different from zero for both employment and earnings. As a result, we conclude that the time trends for employment and earnings do not differ.

D.5 Measurement of Favorable Job Characteristics

Our analysis of other labor market outcomes includes an exploratory composite measure that captures self-reported favorable job characteristics. This measure is based on several questions from the three-year survey that fall into four categories: flexibility, supportiveness, benefits, and advancement. For each of these categories, we create a score that reflects whether the respondent self-reports agreeing that they experience those job characteristics. We then dichotomize the results—an individual is considered to have self-reported favorable job characteristics if he or she reports favorable characteristics in each of the four categories. The details of this measure were not elaborated in the study's Analysis Plan because the measure is exploratory and was new since the short-term analysis. We summarize the elements of the employment characteristics measures in Exhibit D.6.

Exhibit D.6: Elements of Self-Reported Favorable Job Characteristics

Category	Question(s)	Response that indicates favorable characteristics
Flexibility	Four-point Likert response-scale for strength of agreement with the following statements: <ul style="list-style-type: none"> • I am able to balance work and family responsibilities. • I have some choice in setting my hours to meet my needs. • If I have a family emergency like a sick child, my employer will allow me to take time off or change my schedule. 	Average across all statements is 3 (agree) or greater (strongly agree)
Supportiveness	Five-point Likert response-scale for strength of agreement with the following statements: <ul style="list-style-type: none"> • My coworkers help and support me. • My supervisor helps and supports me. • I can take a break when I wish. • I have enough time to get my work tasks completed. • My job gives me a feeling of work well done. • I have the feeling of doing useful work. • I know what is expected of me. 	Average across all statements is greater than 3 (agree or strongly agree)
Benefits	Total number of the following benefits: <ul style="list-style-type: none"> • Health insurance • Paid vacation • Paid holidays • Paid sick days • Retirement or pension benefits 	Count of the number reported is 3 or greater
Advancement	Four-point Likert response-scale for strength of agreement (from 0 to 3) with the following statement: <ul style="list-style-type: none"> • There are many opportunities for career advancement for me with [employer's name inserted]. 	Response of 2 or greater (agree or strongly agree)

The outcome on which we report impacts in Chapter 4 is labelled “Self-Reported Favorable Job Characteristics” and has a value of 1 (yes) for respondents who report with agreement on all four elements in Exhibit D.6. As shown in Exhibit D.7, about 28 percent of the control group reports favorable job characteristics on this measure.

To offer sensitivity tests around this newly-constructed exploratory variable for the three-year analysis, we constructed two alternative measures. The first uses a count of the elements in Exhibit D.6, using a threshold of 3 out of 4 to designate that a respondent has “favorable job characteristics.” As shown in Exhibit D.7, about 60 percent of the control group reports favorable job characteristics on this measure.

The second alternative measure is the same as what the PACE analysis team constructed and is reporting across its nine three-year impact analyses. In brief, that measure involves a cluster analysis, where the individuals who were identified to be in the cluster where all means on the four scales in Exhibit D.6 were above average were designated as being in a “supportive working environment.” For additional details on the composition of that measure, see the Appendix of Judkins, Litwok & Gardiner (forthcoming). Exhibit D.7 shows that about 38 percent of the control group has a “supportive working environment” as defined by that measure.

The results of this analysis of three alternative measures of “favorable job characteristics” or “supportive working environment” are reassuring: HPOG is credited with improving conditions. Regardless of the measure, between 5 and 9 percent *more* of the treatment group reports being in a better environment, as indicated by the greater reported flexibility, supportiveness, benefits, and advancement opportunities in their jobs.

Exhibit D.7: Impacts on Other Labor Market Outcomes

Outcome	Level of Evidence	Treatment Group Mean	Control Group Mean	Impact	Relative Impact
Self-reported favorable job characteristics (4 of 4)	Exploratory	30.7	28.2	2.5**	8.9
Self-reported favorable job characteristics (3 of 4)	Exploratory	62.7	59.6	3.1**	5.2
Supportive working environment (cluster-based)	Exploratory	41.1	37.7	3.4***	8.9

Notes: Confirmatory and secondary findings use a one-sided hypothesis test, and exploratory findings use a two-sided hypothesis test. Statistical significance levels for one-sided tests are indicated with hashtags, as follows: ### = 1 percent; ## = 5 percent; # = 10 percent. Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sample Sizes and Sources:

Treatment: 6,027. Control: 3,305. Three-year survey.

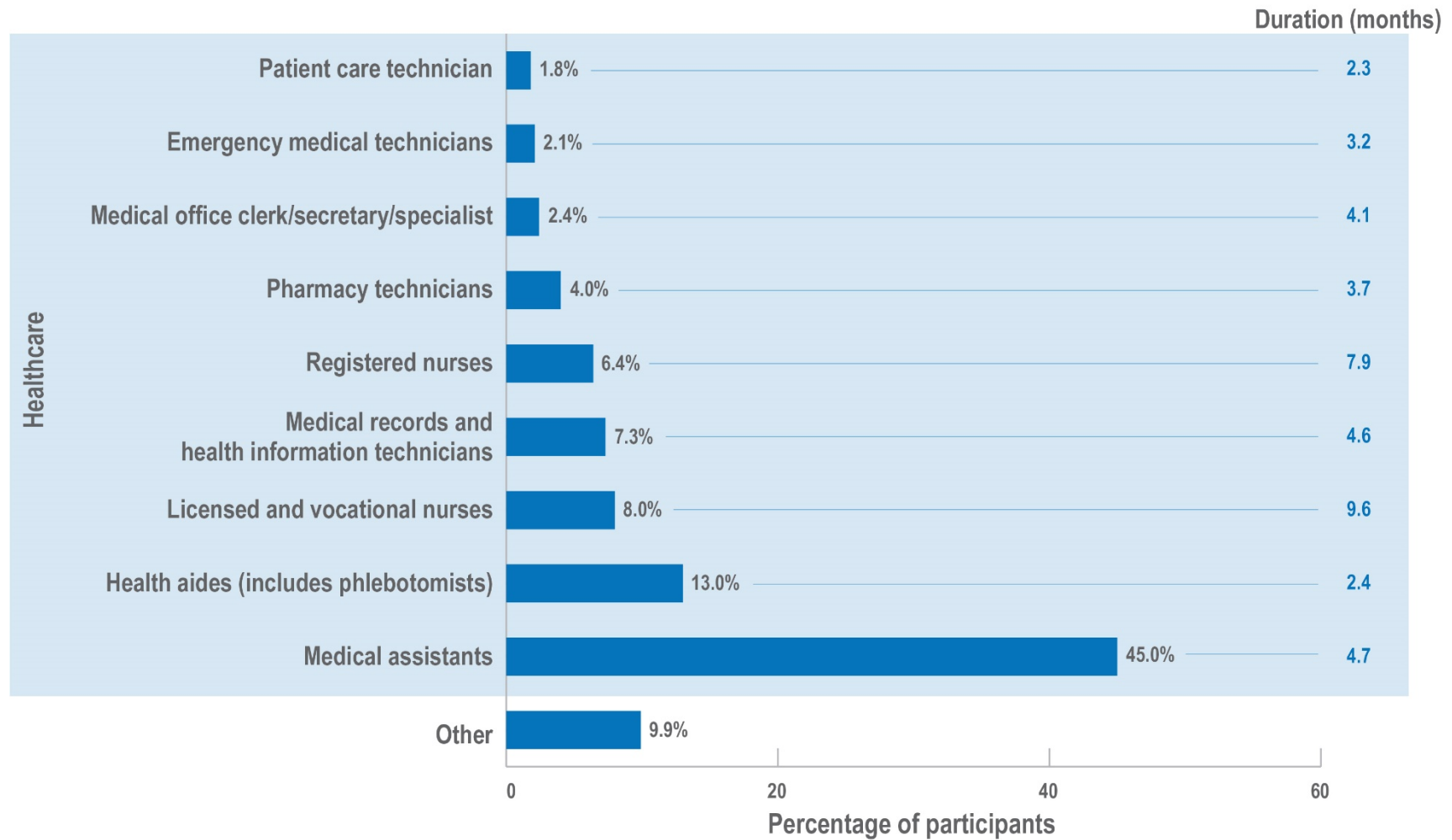
D.6 Descriptive Analysis of Training Type and Occupation Field

The exhibits in this section show training and employment occupations for the HPOG sample. We find shorter trainings, such as nursing assistant, to be most popular.²⁰ The most popular occupations, which correspond to these trainings, have low average salaries (e.g., health aides make approximately \$27,000 annually).²¹

²⁰ Training duration are taken from the *Short-Term Impacts Report*. These are likely to be underestimates of actual duration because the estimates were only available for those who had completed their training within 15 to 18 months and the majority of those who completed longer-term trainings in that timeframe had been enrolled at baseline.

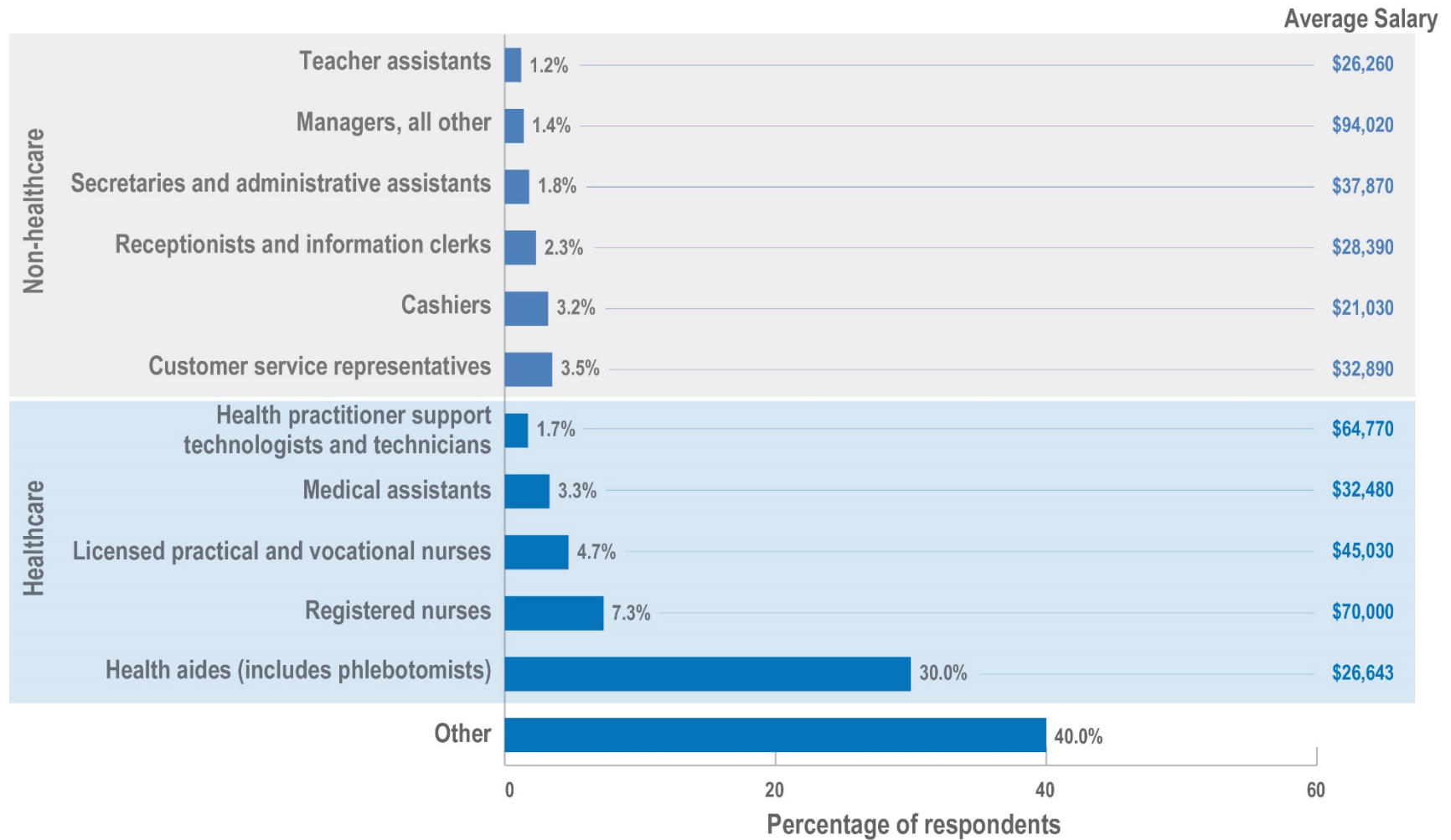
²¹ Average salaries are those associated with occupation codes as reported in Bureau of Labor Statistics (2015).

Exhibit D.8: First HPOG Training by Type and Average Duration



Notes: Frequencies on bars reflect the proportion of the sample that enrolled in each type of training. Numbers on the right side of the figure reflect average duration in months for each training. Training occupations with fewer than 100 individuals are grouped into the "Other" category.
 Sources: HPOG PRS.

Exhibit D.9: Occupations by Type and Average Salary



Notes: Frequencies on bars reflect the proportion of the sample that were employed in each type of job. Numbers on the right side of the figure reflect average salary for each type of job. Job occupations with fewer than 100 individuals are grouped into the "Other" category.

Sources: Three-year survey.

Appendix E. Supplemental Materials for Chapter 5

This appendix presents more detailed versions of the exhibits in Chapter 5 (“Impacts on General Well-Being”), as follows:

- Section E.1 presents supplementary materials for impacts on income and public assistance.
- Section E.2 presents supplementary materials for impacts on psychological well-being and barriers to employment.

E.1 Impacts of HPOG on Income and Public Assistance: Supplemental Materials**Exhibit E.1: Impacts on Income and Public Assistance: Supplementary Materials**

Outcome	Level of Evidence	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Individual receipt of TANF, SNAP, or Medicaid in prior month (%)	Secondary	47.6	46.3	1.3	2.8	0.9	(-∞, 2.4)	1.8	6,476	3,551
Personally received TANF in the prior month (%)	Exploratory	5.6	6.4	-0.8*	-12.3	0.4	(-1.5, -0.1)	1.1	6,476	3,551
Personally received SNAP in the prior month (%)	Exploratory	33.9	33.8	0.1	0.2	0.7	(-1.1, 1.2)	1.7	6,476	3,551
Personally received Medicaid in the prior month (%)	Exploratory	37.1	35.2	1.9**	5.4	0.9	(0.4, 3.3)	2.2	6,476	3,551
Number of welfare programs (TANF, SNAP, Medicaid) from which the individual received benefits in the prior month (range is 0 to 3)	Exploratory	0.77	0.75	0.01	1.6	0.02	(-0.01, 0.04)	0.04	6,476	3,551
Household received any government assistance in the prior month (%)	Exploratory	63.7	61.6	2.2**	3.5	0.9	(0.6, 3.7)	2.3	6,476	3,551
Personally received any government assistance in the prior month (%)	Exploratory	56.2	54.4	1.8**	3.3	0.9	(0.3, 3.2)	2.2	6,476	3,551
Personal income received from all sources in the prior month (\$)	Exploratory	1,668	1,668	-1	-0.0	31	(-52, 51)	78	6,476	3,551
Household income received from all sources in the prior month (\$)	Exploratory	2,552	2,585	-32	-1.3	42	(-101, 36)	104	6,476	3,551
Participant reports not having enough money to make ends meet over the past 12 months (%)	Secondary	24.1	27.3	-3.2###	-11.6	0.9	(-∞, -1.9)	2.0	6,476	3,551
Used loans in either own name or parent's name to pay for school or living expenses since enrollment (%)	Exploratory	24.8	25.5	-0.6	-2.5	1.0	(-2.2, 1.0)	2.4	6,476	3,551

Notes: Confirmatory and secondary findings use a one-sided hypothesis test, and exploratory findings use a two-sided hypothesis test. Statistical significance levels for one-sided tests are indicated with hashtags, as follows: ### = 1 percent; ## = 5 percent; # = 10 percent. Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Sources: Three-year survey.

E.2 Impacts of HPOG on Psychological Well-Being and Barriers to Employment: Supplemental Materials**Exhibit E.2: Impacts on Psychological Well-Being and Barriers to Employment: Supplementary Materials**

Outcome	Level of Evidence	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
<i>Psychological Well-Being</i>										
Core self-evaluation (range is 1 to 4)	Exploratory	3.28	3.23	0.05***	1.5	0.01	(0.03, 0.07)	0.03	6,476	3,551
Perceived stress (range is 0 to 4)	Exploratory	2.02	2.07	-0.05**	-2.4	0.02	(-0.08, -0.02)	0.05	6,476	3,551
<i>Barriers to Employment</i>										
Number of barriers that very often interfered with school, work, job search, or family responsibilities (range is 0 to 5)	Exploratory	0.42	0.42	-0.00	-1.0	0.02	(-0.03, 0.03)	0.04	6,476	3,551
Childcare arrangements were a barrier (%)	Exploratory	15.5	14.9	0.6	3.8	0.9	(-0.8, 2.0)	2.1	6,476	3,551
Transportation was a barrier (%)	Exploratory	10.8	10.9	-0.0	-0.4	0.6	(-1.1, 1.0)	1.5	6,476	3,551
Alcohol or drug use was a barrier (%)	Exploratory	0.6	0.6	-0.0	-3.8	0.2	(-0.3, 0.3)	0.5	6,476	3,551
An illness or health condition was a barrier (%)	Exploratory	9.0	8.9	0.1	1.2	0.7	(-1.0, 1.2)	1.7	6,476	3,551
Another situation was a barrier (%)	Exploratory	6.3	6.8	-0.5	-7.5	0.5	(-1.4, 0.4)	1.3	6,476	3,551

Notes: Confirmatory and secondary findings use a one-sided hypothesis test, and exploratory findings use a two-sided hypothesis test. Statistical significance levels for one-sided tests are indicated with hashtags, as follows: ### = 1 percent; ## = 5 percent; # = 10 percent. Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sources: Three-year survey.

Appendix F. Supplemental Materials for Chapter 6

This appendix presents more detailed versions of the exhibits in Chapter 6 (“Impacts on Subgroups”), as follows:

- Section F.1 presents supplementary materials for impacts on demographic subgroups.
- Section F.2 presents supplementary materials for impacts on policy-relevant subgroups.
- Section F.3 presents impacts for subgroups defined by public assistance receipt at baseline.
- Section F.4 presents descriptive analysis of training type and occupation field by selected subgroup.

For the report’s tables that report the differences in subgroup impacts, this appendix includes tables that show the underlying results that provide the data for those estimates, along with some additional detail, including standard errors, confidence intervals of the difference in impacts, and group sample sizes.

F.1 Impacts of HPOG on Demographic Subgroups: Supplemental Materials

Exhibit F.1: Impacts on Demographic Subgroups: Supplementary Materials

Subgroup	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
<i>Age</i>									
Less than 25 years	71.8	59.0	12.8***	21.7	1.7	(10.1, 15.6)	4.2	1,897	962
25 years or older	76.6	64.3	12.3***	19.2	1.4	(10.1, 14.6)	3.4	4,131	2,343
<i>Race/Ethnicity</i>									
Hispanic/Latino of any race	71.5	57.1	14.4***	25.1	2.1	(10.9, 17.8)	5.2	1,417	860
Black/African American, non-Hispanic	73.3	60.9	12.4***	20.3	2.0	(9.0, 15.7)	5.1	2,117	1,103
Other (includes white/Caucasian), non-Hispanic	79.3	68.2	11.1***	16.3	1.7	(8.3, 13.9)	4.3	2,493	1,342
<i>Dependent Children</i>									
No dependent children	74.6	64.2	10.4***	16.1	1.6	(7.8, 12.9)	3.9	2,276	1,196
≥ 1 dependent children	75.6	62.0	13.7***	22.1	1.4	(11.4, 15.9)	3.4	3,751	2,109

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources: Three-year survey.

Although there are statistically significant impacts for all of these subgroups, there are no detectable *differences in impacts between* groups defined by age or race/ethnicity. For parental status, the difference of 3.3 percentage points is statistically significant, as shown in Exhibit F.2.

Exhibit F.2: Difference in Impacts on Educational Progress by Demographic Subgroups

Outcome	Subgroup A	Subgroup B	Difference (A minus B)	Standard Error	90% Confidence Interval
Training completion (%)	25 years or older	Less than 25 years	-0.5	2.1	(-4.0, 3.0)
	Other (includes white/Caucasian), non-Hispanic	Black/African American, non-Hispanic	-1.3	2.8	(-5.9, 3.4)
	Other (includes white/Caucasian), non-Hispanic	Hispanic/Latino of any race	-3.2	2.6	(-7.6, 1.1)
	Black/African American, non-Hispanic	Hispanic/Latino of any race	-2.0	3.0	(-6.8, 2.9)
	≥1 dependent children	No dependent children	3.3*	2.0	(0.1, 6.5)

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sources: Three-year survey.

Exhibit F.3: Impacts on Earnings by Demographic Subgroups: Supplementary Materials

Subgroup	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
<i>Age</i>									
Less than 25 years	4,750	4,710	39	0.8	133	(-179, 258)	331	2,825	1,539
25 years or older	5,162	5,123	39	0.8	93	(-113, 190)	230	5,847	3,505
<i>Race/Ethnicity</i>									
Hispanic/Latino of any race	4,506	4,633	-127	-2.7	157	(-384, 130)	390	1,961	1,280
Black/African American, non-Hispanic	4,908	4,749	159	3.3	129	(-53, 370)	321	3,012	1,641
Other (includes white/Caucasian), non-Hispanic	5,445	5,408	37	0.7	114	(-150, 224)	284	3,699	2,123
<i>Dependent Children</i>									
No dependent children	5,065	5,005	61	1.2	130	(-152, 274)	323	3,267	1,855
≥ 1 dependent children	5,023	4,992	30	0.6	98	(-131, 191)	244	5,405	3,189

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources: National Directory of New Hires.

There are no detectable differences in impacts on earnings between groups defined by age, race/ethnicity, or parental status.²²

²² The impacts of \$39 in both age subgroups may seem inconsistent with the overall sample's impact of \$42, reported in Chapter 5. This small discrepancy is likely driven by our decision to not allow the effect of covariates to vary by subgroups in the subgroup analysis.

Exhibit F.4: Difference in Impacts on Earnings by Demographic Subgroups

Outcome	Subgroup A	Subgroup B	Difference (A minus B)	Standard Error	90% Confidence Interval
Average quarterly earnings during the 12th and 13th quarters (\$)	25 years or older	Less than 25 years	-1	157	(-258, 257)
	Other (includes white/Caucasian), non-Hispanic	Black/African American, non-Hispanic	-122	169	(-400, 156)
	Other (includes white/Caucasian), non-Hispanic	Hispanic	163	193	(-153, 480)
	Black/African American, non-Hispanic	Hispanic/Latino of any race	285	201	(-44, 615)
	Hispanic	Hispanic/Latino of any race	285	201	(-44, 615)
	≥1 dependent children	No dependent children	-30	163	(-298, 237)

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sources: National Directory of New Hires.

F.2 Impacts of HPOG on Policy-Relevant Subgroups: Supplemental Materials

Exhibit F.5a: Impacts by Enrollment at Program Entry (Enrolled at Baseline): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	84.5	76.8	7.7***	10.0	2.0	(4.4, 11.0)	5.0	1,307	569
Obtained certificate, license, or credential (%) ^a	59.2	50.3	8.9***	17.7	2.6	(4.6, 13.2)	6.5	1,307	569
Completed diploma or certificate for regular college classes (%) ^a	25.3	18.7	6.6***	35.3	2.0	(3.4, 9.9)	4.9	1,307	569
Completed vocational training certificate (%) ^a	16.7	12.8	3.8*	29.8	2.1	(0.4, 7.2)	5.1	1,307	569
Completed college degree (%) ^a	46.0	49.7	-3.8	-7.6	2.5	(-7.9, 0.3)	6.2	1,307	569
Months of full-time equivalent enrollment ^a	13.5	12.9	0.5	4.2	0.5	(-0.3, 1.4)	1.3	1,307	569
Earned ≥1 year college certificate or degree (%) ^a	52.6	54.4	-1.8	-3.3	2.5	(-5.9, 2.3)	6.3	1,307	569
Currently enrolled in training (%) ^a	19.7	20.4	-0.7	-3.4	2.1	(-4.2, 2.8)	5.3	1,307	569
Confidence in career knowledge (range is 1 to 4) ^a	3.50	3.49	0.01	0.32	0.03	(-0.04, 0.06)	0.08	1,412	628
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	6,769	6,730	39	0.6	317	(-481, 560)	789	1,741	993
Employment in 12th or 13th quarter (%) ^b	86.6	85.9	0.6	0.7	1.6	(-2.0, 3.3)	4.0	1,741	993
Current or most recent job is in healthcare (%) ^a	67.8	57.5	10.3***	17.8	2.3	(6.4, 14.1)	5.8	1,607	849
Current or most recent job offers health insurance (%) ^a	68.0	65.4	2.5	3.9	2.5	(-1.6, 6.7)	6.3	1,607	849
Training completion and earnings growth (%) ^c	56.2	52.0	4.2	8.1	3.0	(-0.6, 9.0)	7.3	1,607	849
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	35.0	29.4	5.6***	19.1	2.0	(2.4, 8.8)	4.9	1,412	629
Individual receipt of TANF (%) ^a	3.1	2.8	0.2	7.7	0.8	(-1.1, 1.6)	2.0	1,412	629
Individual receipt of SNAP (%) ^a	22.2	17.4	4.8***	27.6	1.6	(2.2, 7.4)	4.0	1,412	629
Individual receipt of Medicaid (%) ^a	29.7	25.0	4.6**	18.6	2.1	(1.1, 8.1)	5.3	1,412	629
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	18.1	20.6	-2.5	-12.2	2.1	(-5.9, 0.9)	5.2	1,412	629

Notes: Sample excludes participants at dual HPOG/PACE programs. Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.5b: Impacts by Enrollment at Program Entry (Not Enrolled at Baseline): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	72.9	57.9	15.0***	25.9	1.5	(12.6, 17.4)	3.6	3,587	1,669
Obtained certificate, license, or credential (%) ^a	51.8	37.2	14.6***	39.3	1.6	(12.0, 17.2)	3.9	3,587	1,669
Completed diploma or certificate for regular college classes (%) ^a	18.6	11.2	7.4***	66.3	1.3	(5.3, 9.6)	3.3	3,587	1,669
Completed vocational training certificate (%) ^a	24.3	16.0	8.4***	52.3	1.1	(6.6, 10.1)	2.6	3,587	1,669
Completed college degree (%) ^a	22.9	21.2	1.7	8.0	1.2	(-0.2, 3.7)	3.0	3,587	1,669
Months of full-time equivalent enrollment ^a	5.9	5.1	0.8***	16.3	0.3	(0.4, 1.3)	0.7	3,587	1,669
Earned ≥1 year college certificate or degree (%) ^a	26.5	23.2	3.3***	14.3	1.3	(1.2, 5.4)	3.2	3,587	1,669
Currently enrolled in training (%) ^a	10.8	10.5	0.3	2.5	1.1	(-1.5, 2.0)	2.7	3,587	1,669
Confidence in career knowledge (range is 1 to 4) ^a	3.36	3.33	0.03*	0.89	0.02	(0.00, 0.06)	0.04	3,852	1,797
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	4,767	4,625	142	3.1	112	(-41, 325)	277	4,971	2,911
Employment in 12th or 13th quarter (%) ^b	83.2	81.1	2.1**	2.6	0.9	(0.6, 3.6)	2.3	4,971	2,911
Current or most recent job is in healthcare (%) ^a	54.0	41.1	12.9***	31.5	1.5	(10.5, 15.3)	3.6	4,420	2,457
Current or most recent job offers health insurance (%) ^a	58.9	57.0	1.9	3.4	1.6	(-0.7, 4.5)	3.9	4,420	2,457
Training completion and earnings growth (%) ^c	39.1	31.4	7.7***	24.6	1.7	(5.0, 10.5)	4.2	4,420	2,457
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	52.4	52.7	-0.4	-0.7	1.4	(-2.6, 1.9)	3.4	3,852	1,796
Individual receipt of TANF (%) ^a	6.6	7.7	-1.1	-13.9	0.7	(-2.2, 0.1)	1.8	3,852	1,796
Individual receipt of SNAP (%) ^a	37.5	39.2	-1.7	-4.4	1.2	(-3.6, 0.2)	2.9	3,852	1,796
Individual receipt of Medicaid (%) ^a	43.0	42.6	0.4	1.0	1.4	(-1.8, 2.7)	3.4	3,852	1,796
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	26.4	29.4	-3.0**	-10.2	1.4	(-5.3, -0.7)	3.4	3,852	1,796

Notes: Sample excludes participants at dual HPOG/PACE programs. Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.6: Difference in Impacts by Enrollment at Program Entry

Outcome	Subgroup A	Subgroup B	Difference (A minus B)	Standard Error	90% Confidence Interval
Educational Progress Outcomes					
Training completion (%) ^a	Enrolled at Intake	Not Enrolled at Intake	-7.3***	2.5	(-11.4, -3.3)
Obtained certificate, license, or credential (%) ^a	Enrolled at Intake	Not Enrolled at Intake	-5.7*	3.0	(-10.7, -0.7)
Completed diploma or certificate for regular college classes (%) ^a	Enrolled at Intake	Not Enrolled at Intake	-0.8	2.3	(-4.6, 3.1)
Completed vocational training certificate (%) ^a	Enrolled at Intake	Not Enrolled at Intake	-4.5*	2.4	(-8.5, -0.5)
Completed college degree (%) ^a	Enrolled at Intake	Not Enrolled at Intake	-5.5**	2.6	(-9.7, -1.2)
Months of full-time equivalent enrollment ^a	Enrolled at Intake	Not Enrolled at Intake	-0.3	0.6	(-1.3, 0.7)
Earned ≥1 year college certificate or degree (%) ^a	Enrolled at Intake	Not Enrolled at Intake	-5.1**	2.6	(-9.3, -0.9)
Currently enrolled in training (%) ^a	Enrolled at Intake	Not Enrolled at Intake	-1.0	2.5	(-5.1, 3.2)
Confidence in career knowledge (range is 1 to 4) ^a	Enrolled at Intake	Not Enrolled at Intake	-0.02	0.04	(-0.08, 0.04)
Labor Market Outcomes					
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	Enrolled at Intake	Not Enrolled at Intake	-103	310	(-611, 406)
Employment in 12th or 13th quarter (%) ^b	Enrolled at Intake	Not Enrolled at Intake	-1.5	1.9	(-4.5, 1.6)
Current or most recent job is in healthcare (%) ^a	Enrolled at Intake	Not Enrolled at Intake	-2.7	2.7	(-7.0, 1.7)
Current or most recent job offers health insurance (%) ^a	Enrolled at Intake	Not Enrolled at Intake	0.6	3.1	(-4.4, 5.6)
Training completion and earnings growth (%) ^c	Enrolled at Intake	Not Enrolled at Intake	-3.5	3.1	(-8.6, 1.5)
General Well-Being Outcomes					
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	Enrolled at Intake	Not Enrolled at Intake	6.0**	2.5	(1.8, 10.2)
Personally received TANF in the prior month (%) ^a	Enrolled at Intake	Not Enrolled at Intake	1.3	1.2	(-0.7, 3.2)
Personally received SNAP in the prior month (%) ^a	Enrolled at Intake	Not Enrolled at Intake	6.5***	2.1	(3.0, 10.0)
Personally received Medicaid in the prior month (%) ^a	Enrolled at Intake	Not Enrolled at Intake	4.2	2.8	(-0.4, 8.8)
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	Enrolled at Intake	Not Enrolled at Intake	0.5	2.6	(-3.8, 4.7)

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

F.2.1 Expectations for Participation at Program Entry

As specified in the *Three-Year Analysis Plan*, we estimated impacts on subgroups defined by whether, at the time of program entry, participants expected to participate in HPOG full-time or part-time. As noted in Chapter 1, about three-quarters expected to participate full-time, and about one-quarter expected to participate part-time. We found that participant-reported *expected* participation was not a good predictor of their *actual* participation: only about 46 percent of those who expected to participate full-time reported any full-time attendance in training during the first six months after enrollment; and 27 percent of those who expected to participate part-time reported any part-time training during the first six months after enrollment. Because of the weak correlation between expected and actual enrollment, we report these findings in the appendix and not in the main body. Those results appear in Exhibits F.7a, F.7b, and F.8.

There is evidence of impact variation according to expectations for full-time or part-time participation. Impacts tend to be more favorable for those who expected to participate full-time than for those who expected to participate part time. The group that expected to participate full time had larger impacts on confidence in career knowledge (a 0.05 larger impact on a scale from 1 to 4) and completion of a college certificate or degree requiring at least one year of training (for which the impact was 5.7 percentage points larger). Those who expected to participate full-time also had an earnings impact that was \$307 larger than those who expected to participate part-time, and an impact on receipt of public benefits that was 4.8 percentage-points smaller (more favorable). Because the subgroups do not align well with actual full- or part-time participation, we interpret these results cautiously, expecting that the differential impacts may associate with some other, unmeasured characteristics within the sample.

Exhibit F.7a: Impacts by Expectations for Participation (Full-Time): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	76.5	63.8	12.7***	19.8	1.1	(10.8, 14.5)	2.8	4,444	2,454
Obtained certificate, license, or credential (%) ^a	59.4	46.5	12.8***	27.6	1.4	(10.6, 15.1)	3.4	4,444	2,454
Completed diploma or certificate for regular college classes (%) ^a	17.5	11.4	6.1***	53.3	1.2	(4.1, 8.0)	3.0	4,444	2,454
Completed vocational training certificate (%) ^a	22.0	14.5	7.5***	51.4	1.0	(5.9, 9.0)	2.4	4,444	2,454
Completed college degree (%) ^a	24.6	23.6	1.0	4.4	1.2	(-0.9, 3.0)	3.0	4,444	2,454
Months of full-time equivalent enrollment ^a	8.2	7.4	0.9***	11.6	0.2	(0.5, 1.2)	0.6	4,444	2,454
Earned ≥1 year college certificate or degree (%) ^a	29.1	26.1	3.0**	11.4	1.3	(0.9, 5.1)	3.2	4,444	2,454
Currently enrolled in training (%) ^a	12.9	13.5	-0.6	-4.3	0.9	(-2.1, 1.0)	2.3	4,444	2,454
Confidence in career knowledge (range is 1 to 4) ^a	3.43	3.39	0.04***	1.27	0.02	(0.02, 0.07)	0.04	4,763	2,647
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	5,158	5,032	127	2.5	89	(-19, 272)	221	6,392	3,801
Employment in 12th or 13th quarter (%) ^b	81.8	80.9	0.8	1.0	0.8	(-0.5, 2.2)	2.1	6,392	3,801
Current or most recent job is in healthcare (%) ^a	56.9	45.1	11.8***	26.2	1.2	(9.8, 13.8)	3.0	4,445	2,457
Current or most recent job offers health insurance (%) ^a	58.8	56.3	2.5*	4.4	1.3	(0.3, 4.6)	3.3	4,445	2,457
Training completion and earnings growth (%) ^c	44.9	37.7	7.2***	19.1	1.5	(4.8, 9.6)	3.6	4,445	2,457
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	47.9	47.8	0.0	0.1	1.1	(-1.8, 1.9)	2.8	4,446	2,455
Individual receipt of TANF (%) ^a	5.8	6.6	-0.8	-11.8	0.5	(-1.6, 0.1)	1.3	4,446	2,455
Individual receipt of SNAP (%) ^a	34.5	34.4	0.1	0.3	0.9	(-1.4, 1.5)	2.2	4,446	2,455
Individual receipt of Medicaid (%) ^a	37.2	37.0	0.2	0.6	1.1	(-1.6, 2.0)	2.7	4,446	2,455
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	24.1	28.1	-4.0***	-14.2	1.0	(-5.7, -2.3)	2.6	4,446	2,455

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.7b: Impacts by Expectations for Participation (Part-Time): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	71.7	59.5	12.1***	20.4	2.4	(8.2, 16.0)	5.9	1,583	851
Obtained certificate, license, or credential (%) ^a	54.3	42.1	12.3***	29.2	2.6	(8.1, 16.5)	6.4	1,583	851
Completed diploma or certificate for regular college classes (%) ^a	18.2	10.7	7.5***	69.6	1.7	(4.7, 10.2)	4.2	1,583	851
Completed vocational training certificate (%) ^a	20.8	12.3	8.4***	68.5	1.6	(5.9, 11.0)	3.9	1,583	851
Completed college degree (%) ^a	18.5	21.4	-2.9*	-13.7	1.8	(-5.8, -0.0)	4.4	1,583	851
Months of full-time equivalent enrollment ^a	5.8	5.2	0.6	11.1	0.4	(-0.0, 1.2)	0.9	1,583	851
Earned ≥1 year college certificate or degree (%) ^a	21.0	23.7	-2.7	-11.4	1.9	(-5.8, 0.4)	4.6	1,583	851
Currently enrolled in training (%) ^a	13.4	12.5	0.9	7.0	1.5	(-1.6, 3.3)	3.7	1,583	851
Confidence in career knowledge (range is 1 to 4) ^a	3.32	3.33	-0.01	-0.36	0.02	(-0.05, 0.03)	0.06	1,713	904
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	4,710	4,891	-181	-3.7	148	(-424, 63)	369	2,280	1,243
Employment in 12th or 13th quarter (%) ^b	82.6	81.2	1.4	1.8	1.4	(-0.8, 3.7)	3.4	2,280	1,243
Current or most recent job is in healthcare (%) ^a	51.8	40.4	11.3***	28.0	2.4	(7.5, 15.2)	5.8	1,582	849
Current or most recent job offers health insurance (%) ^a	57.7	55.7	2.0	3.7	2.4	(-2.0, 6.0)	6.1	1,582	849
Training completion and earnings growth (%) ^c	37.4	31.3	6.1***	19.5	2.2	(2.5, 9.7)	5.5	1,582	849
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	46.8	41.9	4.8**	11.5	2.0	(1.5, 8.1)	5.0	1,581	850
Individual receipt of TANF (%) ^a	5.1	5.9	-0.8	-14.1	1.0	(-2.4, 0.7)	2.4	1,581	850
Individual receipt of SNAP (%) ^a	32.2	32.3	-0.0	-0.1	1.9	(-3.2, 3.1)	4.7	1,581	850
Individual receipt of Medicaid (%) ^a	36.6	30.0	6.6***	21.8	1.9	(3.5, 9.6)	4.7	1,581	850
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	24.0	24.8	-0.8	-3.2	1.9	(-3.9, 2.3)	4.8	1,581	850

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.8: Difference in Impacts by Expectations for Participation at Program Entry

Outcome	Subgroup A	Subgroup B	Difference (A minus B)	Standard Error	90% Confidence Interval
Educational Progress Outcomes					
Training completion (%) ^a	Expect to Participate Full-Time	Expect to Participate Part-Time	0.5	2.5	(-3.6, 4.7)
Obtained certificate, license, or credential (%) ^a	Expect to Participate Full-Time	Expect to Participate Part-Time	0.6	2.9	(-4.2, 5.3)
Completed diploma or certificate for regular college classes (%) ^a	Expect to Participate Full-Time	Expect to Participate Part-Time	-1.4	1.9	(-4.6, 1.7)
Completed vocational training certificate (%) ^a	Expect to Participate Full-Time	Expect to Participate Part-Time	-1.0	1.8	(-3.9, 1.9)
Completed college degree (%) ^a	Expect to Participate Full-Time	Expect to Participate Part-Time	4.0**	1.9	(0.8, 7.1)
Months of full-time equivalent enrollment ^a	Expect to Participate Full-Time	Expect to Participate Part-Time	0.3	0.4	(-0.4, 1.0)
Earned ≥1 year college certificate or degree (%) ^a	Expect to Participate Full-Time	Expect to Participate Part-Time	5.7***	2.1	(2.3, 9.1)
Currently enrolled in training (%) ^a	Expect to Participate Full-Time	Expect to Participate Part-Time	-1.5	1.8	(-4.4, 1.4)
Confidence in career knowledge (range is 1 to 4) ^a	Expect to Participate Full-Time	Expect to Participate Part-Time	0.05*	0.03	(0.01, 0.10)
Labor Market Outcomes					
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	Expect to Participate Full-Time	Expect to Participate Part-Time	307*	169	(30, 584)
Employment in 12th or 13th quarter (%) ^b	Expect to Participate Full-Time	Expect to Participate Part-Time	-0.6	1.6	(-3.2, 2.0)
Current or most recent job is in healthcare (%) ^a	Expect to Participate Full-Time	Expect to Participate Part-Time	0.5	2.6	(-3.8, 4.7)
Current or most recent job offers health insurance (%) ^a	Expect to Participate Full-Time	Expect to Participate Part-Time	0.4	2.8	(-4.2, 5.0)
Training completion and earnings growth (%) ^c	Expect to Participate Full-Time	Expect to Participate Part-Time	1.1	2.5	(-3.0, 5.1)
General Well-Being Outcomes					
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	Expect to Participate Full-Time	Expect to Participate Part-Time	-4.8*	2.5	(-8.9, -0.6)
Personally received TANF in the prior month (%) ^a	Expect to Participate Full-Time	Expect to Participate Part-Time	0.1	1.1	(-1.8, 1.9)
Personally received SNAP in the prior month (%) ^a	Expect to Participate Full-Time	Expect to Participate Part-Time	0.1	2.3	(-3.7, 4.0)
Personally received Medicaid in the prior month (%) ^a	Expect to Participate Full-Time	Expect to Participate Part-Time	-6.3***	2.3	(-10.1, -2.6)
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	Expect to Participate Full-Time	Expect to Participate Part-Time	-3.2	2.1	(-6.7, 0.3)

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

F.2.2 Educational Attainment at Program Entry

As specified in the *Three-Year Analysis Plan*, we estimated impacts on subgroups defined by one of four levels of self-reported educational attainment at the time of program entry: less than high school, high school or equivalent, some postsecondary, and degree. As noted in Chapter 6, for ease of interpretation we collapsed the subgroups: high school education or less versus some postsecondary or more.

The tables that follow report details of impact estimation for *both* definitions of the subgroups: the four groups as defined in the *Three-Year Analysis Plan* and the two groups as reported in Chapter 6.

Exhibit F.9a: Impacts by Educational Attainment at Program Entry (Degree): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	87.2	81.0	6.2***	7.6	2.1	(2.8, 9.6)	5.2	1,169	600
Obtained certificate, license, or credential (%) ^a	59.2	47.1	12.1***	25.6	2.4	(8.1, 16.1)	6.0	1,169	600
Completed diploma or certificate for regular college classes (%) ^a	15.7	10.7	5.0***	47.4	1.7	(2.2, 7.9)	4.3	1,169	600
Completed vocational training certificate (%) ^a	21.2	14.6	6.6***	45.5	1.8	(3.6, 9.6)	4.6	1,169	600
Completed college degree (%) ^a	62.1	58.7	3.3	5.7	2.7	(-1.1, 7.8)	6.8	1,169	600
Months of full-time equivalent enrollment ^a	7.7	7.6	0.1	1.1	0.5	(-0.8, 0.9)	1.3	1,169	600
Earned ≥1 year college certificate or degree (%) ^a	64.2	61.0	3.2	5.3	2.7	(-1.1, 7.6)	6.6	1,169	600
Currently enrolled in training (%) ^a	13.1	14.5	-1.5	-10.2	1.8	(-4.4, 1.4)	4.4	1,169	600
Confidence in career knowledge (range is 1 to 4) ^a	3.44	3.42	0.03	0.76	0.03	(-0.02, 0.07)	0.07	1,244	641
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	5,959	5,890	69	1.2	180	(-226, 365)	448	1,583	859
Employment in 12th or 13th quarter (%) ^b	80.9	80.3	0.6	0.7	1.6	(-2.0, 3.2)	4.0	1,583	859
Current or most recent job is in healthcare (%) ^a	56.1	43.7	12.4***	28.4	2.3	(8.6, 16.2)	5.7	1,169	594
Current or most recent job offers health insurance (%) ^a	58.6	57.0	1.7	2.9	2.5	(-2.5, 5.9)	6.3	1,169	594
Training completion and earnings growth (%) ^c	47.0	44.2	2.8	6.4	2.7	(-1.6, 7.2)	6.7	1,169	594
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	40.0	40.9	-0.8	-2.1	2.2	(-4.5, 2.8)	5.6	1,167	599
Individual receipt of TANF (%) ^a	4.6	5.2	-0.7	-12.8	1.0	(-2.3, 0.9)	2.4	1,167	599
Individual receipt of SNAP (%) ^a	27.0	29.6	-2.6	-8.7	2.0	(-5.9, 0.8)	5.1	1,167	599
Individual receipt of Medicaid (%) ^a	32.9	33.2	-0.3	-0.9	2.2	(-4.0, 3.4)	5.5	1,167	599
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	24.4	25.5	-1.1	-4.5	2.4	(-5.0, 2.7)	5.9	1,167	599

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.9b: Impacts by Educational Attainment at Program Entry (Some Postsecondary): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	80.5	67.5	12.9***	19.1	1.8	(10.0, 15.8)	4.4	2,158	1,232
Obtained certificate, license, or credential (%) ^a	64.1	51.0	13.1***	25.7	1.9	(10.0, 16.3)	4.8	2,158	1,232
Completed diploma or certificate for regular college classes (%) ^a	18.6	13.2	5.3***	40.3	1.3	(3.2, 7.5)	3.3	2,158	1,232
Completed vocational training certificate (%) ^a	20.9	13.0	7.9***	61.1	1.2	(5.9, 9.9)	3.0	2,158	1,232
Completed college degree (%) ^a	27.4	25.4	2.0	7.7	1.9	(-1.2, 5.1)	4.8	2,158	1,232
Months of full-time equivalent enrollment ^a	9.1	8.3	0.8**	10.1	0.4	(0.2, 1.5)	1.0	2,158	1,232
Earned ≥1 year college certificate or degree (%) ^a	32.5	28.0	4.5**	16.2	1.9	(1.4, 7.7)	4.7	2,158	1,232
Currently enrolled in training (%) ^a	14.6	15.3	-0.7	-4.8	1.3	(-2.9, 1.4)	3.3	2,158	1,232
Confidence in career knowledge (range is 1 to 4) ^a	3.46	3.42	0.04*	1.03	0.02	(0.00, 0.07)	0.05	2,313	1,320
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	5,565	5,325	240*	4.5	127	(32, 448)	315	3,057	1,838
Employment in 12th or 13th quarter (%) ^b	82.5	81.1	1.4	1.7	1.2	(-0.5, 3.3)	2.9	3,057	1,838
Current or most recent job is in healthcare (%) ^a	59.9	47.1	12.8***	27.3	2.1	(9.4, 16.2)	5.2	2,161	1,233
Current or most recent job offers health insurance (%) ^a	59.4	56.6	2.8	4.9	1.8	(-0.2, 5.8)	4.5	2,161	1,233
Training completion and earnings growth (%) ^c	47.9	40.3	7.7***	19.0	1.9	(4.5, 10.8)	4.8	2,161	1,233
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	41.7	42.2	-0.4	-1.0	1.5	(-2.9, 2.0)	3.7	2,162	1,233
Individual receipt of TANF (%) ^a	4.5	5.4	-0.9	-16.8	0.7	(-2.1, 0.3)	1.8	2,162	1,233
Individual receipt of SNAP (%) ^a	28.7	29.0	-0.4	-1.3	1.2	(-2.4, 1.7)	3.1	2,162	1,233
Individual receipt of Medicaid (%) ^a	31.8	31.1	0.8	2.4	1.6	(-1.8, 3.3)	3.9	2,162	1,233
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	22.9	26.6	-3.7***	-14.0	1.4	(-6.1, -1.4)	3.5	2,162	1,233

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey

Exhibit F.9c: Impacts by Educational Attainment at Program Entry (High School or Equivalent): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	66.5	50.8	15.8***	31.0	1.9	(12.6, 18.9)	4.7	2,089	988
Obtained certificate, license, or credential (%) ^a	50.4	38.0	12.5***	32.8	2.2	(8.9, 16.0)	5.3	2,089	988
Completed diploma or certificate for regular college classes (%) ^a	19.2	10.4	8.7***	83.7	1.6	(6.1, 11.3)	4.0	2,089	988
Completed vocational training certificate (%) ^a	23.4	15.5	7.9***	51.0	1.5	(5.5, 10.3)	3.7	2,089	988
Completed college degree (%) ^a	5.4	6.8	-1.4	-20.6	1.1	(-3.2, 0.4)	2.7	2,089	988
Months of full-time equivalent enrollment ^a	6.5	5.1	1.4***	26.8	0.3	(0.9, 1.9)	0.8	2,089	988
Earned ≥1 year college certificate or degree (%) ^a	10.1	9.4	0.7	6.9	1.2	(-1.3, 2.6)	2.9	2,089	988
Currently enrolled in training (%) ^a	11.3	10.1	1.2	11.8	1.3	(-0.9, 3.3)	3.1	2,089	988
Confidence in career knowledge (range is 1 to 4) ^a	3.34	3.31	0.02	0.68	0.02	(-0.02, 0.06)	0.06	2,260	1,073
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	4,460	4,553	-92	-2.0	130	(-306, 121)	324	3,137	1,580
Employment in 12th or 13th quarter (%) ^b	83.7	82.3	1.4	1.7	1.2	(-0.5, 3.3)	2.9	3,137	1,580
Current or most recent job is in healthcare (%) ^a	52.9	42.3	10.6***	25.0	1.8	(7.6, 13.6)	4.5	2,086	984
Current or most recent job offers health insurance (%) ^a	59.7	56.1	3.7*	6.5	1.9	(0.6, 6.8)	4.7	2,086	984
Training completion and earnings growth (%) ^c	38.7	29.3	9.3***	31.8	2.0	(6.0, 12.7)	5.0	2,086	984
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	55.3	51.8	3.5**	6.7	1.6	(0.9, 6.1)	3.9	2,087	987
Individual receipt of TANF (%) ^a	6.7	7.1	-0.4	-5.6	1.0	(-2.0, 1.2)	2.4	2,087	987
Individual receipt of SNAP (%) ^a	39.4	39.0	0.4	1.0	1.5	(-2.1, 2.9)	3.8	2,087	987
Individual receipt of Medicaid (%) ^a	45.3	41.3	4.0***	9.7	1.5	(1.5, 6.5)	3.8	2,087	987
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	24.8	28.1	-3.3**	-11.8	1.6	(-5.9, -0.8)	3.9	2,087	987

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey

Exhibit F.9d: Impacts by Educational Attainment at Program Entry (Less than High School): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	66.5	52.2	14.3***	27.5	2.9	(9.5, 19.1)	7.3	611	485
Obtained certificate, license, or credential (%) ^a	57.6	44.1	13.5***	30.7	3.5	(7.9, 19.2)	8.6	611	485
Completed diploma or certificate for regular college classes (%) ^a	13.6	8.3	5.3**	64.2	2.1	(1.8, 8.8)	5.3	611	485
Completed vocational training certificate (%) ^a	21.1	12.8	8.4***	65.7	2.5	(4.3, 12.5)	6.2	611	485
Completed college degree (%) ^a	1.8	6.0	-4.2***	-70.6	1.6	(-6.8, -1.6)	3.9	611	485
Months of full-time equivalent enrollment ^a	5.5	5.6	-0.1	-1.6	0.6	(-1.1, 0.9)	1.5	611	485
Earned ≥1 year college certificate or degree (%) ^a	3.7	7.7	-4.0**	-51.7	1.9	(-7.1, -0.9)	4.7	611	485
Currently enrolled in training (%) ^a	11.9	12.5	-0.6	-4.5	2.3	(-4.4, 3.3)	5.8	611	485
Confidence in career knowledge (range is 1 to 4) ^a	3.34	3.32	0.02	0.66	0.03	(-0.03, 0.08)	0.08	659	517
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	3,880	4,117	-237	-5.8	210	(-581, 107)	522	895	767
Employment in 12th or 13th quarter (%) ^b	77.7	78.8	-1.1	-1.4	1.9	(-4.2, 2.1)	4.8	895	767
Current or most recent job is in healthcare (%) ^a	48.3	39.1	9.2***	23.6	2.9	(4.5, 13.9)	7.1	612	495
Current or most recent job offers health insurance (%) ^a	52.8	54.2	-1.5	-2.7	3.2	(-6.8, 3.8)	8.0	612	495
Training completion and earnings growth (%) ^c	33.5	29.3	4.2	14.5	3.2	(-1.0, 9.5)	7.9	612	495
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	56.4	52.5	3.9	7.4	2.9	(-0.9, 8.7)	7.3	611	486
Individual receipt of TANF (%) ^a	7.5	9.1	-1.6	-17.3	1.7	(-4.4, 1.2)	4.2	611	486
Individual receipt of SNAP (%) ^a	45.3	40.7	4.6*	11.3	2.8	(0.0, 9.2)	6.9	611	486
Individual receipt of Medicaid (%) ^a	38.4	36.0	2.4	6.6	3.0	(-2.6, 7.3)	7.5	611	486
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	25.5	29.2	-3.7	-12.6	2.6	(-8.0, 0.6)	6.6	611	486

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.10: Difference in Impacts by Educational Attainment (Four-Groups) at Program Entry

Outcome	Subgroup A	Subgroup B	Difference (A minus B)	Standard Error	90% Confidence Interval
Educational Progress Outcomes					
Training completion (%) ^a	Degree	Some College	-6.7**	2.6	(-11.1, -2.4)
	Degree	High School/GED	-9.6***	2.7	(-14.0, -5.2)
	Degree	Less than High School	-8.1**	3.4	(-13.7, -2.6)
	Some College	High School/GED	-2.8	2.6	(-7.1, 1.4)
	Some College	Less than High School	-1.4	3.4	(-6.9, 4.1)
	High School/GED	Less than High School	1.4	3.7	(-4.6, 7.5)
Obtained certificate, license, or credential (%) ^a	Degree	Some College	-1.0	3.0	(-6.0, 3.9)
	Degree	High School/GED	-0.4	3.4	(-6.0, 5.3)
	Degree	Less than High School	-1.4	4.0	(-8.0, 5.1)
	Some College	High School/GED	0.7	2.9	(-4.0, 5.4)
	Some College	Less than High School	-0.4	3.7	(-6.5, 5.7)
	High School/GED	Less than High School	-1.1	4.3	(-8.1, 5.9)
Completed diploma or certificate for regular college classes (%) ^a	Degree	Some College	-0.3	1.9	(-3.4, 2.8)
	Degree	High School/GED	-3.7*	2.0	(-7.0, -0.4)
	Degree	Less than High School	-0.3	2.6	(-4.6, 4.0)
	Some College	High School/GED	-3.4*	1.9	(-6.5, -0.3)
	Some College	Less than High School	0.0	2.2	(-3.6, 3.7)
	High School/GED	Less than High School	3.4	2.4	(-0.6, 7.4)
Completed vocational training certificate (%) ^a	Degree	Some College	-1.3	2.1	(-4.7, 2.1)
	Degree	High School/GED	-1.3	2.2	(-4.9, 2.3)
	Degree	Less than High School	-1.8	3.0	(-6.7, 3.2)
	Some College	High School/GED	0.0	2.0	(-3.2, 3.3)
	Some College	Less than High School	-0.4	2.9	(-5.1, 4.2)
	High School/GED	Less than High School	-0.5	3.0	(-5.4, 4.5)
Completed college degree (%) ^a	Degree	Some College	1.4	3.4	(-4.2, 6.9)
	Degree	High School/GED	4.7*	2.7	(0.3, 9.2)
	Degree	Less than High School	7.6**	3.0	(2.6, 12.6)
	Some College	High School/GED	3.4*	2.0	(0.0, 6.7)
	Some College	Less than High School	6.2***	2.1	(2.8, 9.6)
	High School/GED	Less than High School	2.8*	1.7	(0.1, 5.6)
Months of full-time equivalent enrollment ^a	Degree	Some College	-0.8	0.7	(-1.8, 0.3)
	Degree	High School/GED	-1.3**	0.6	(-2.3, -0.3)
	Degree	Less than High School	0.2	0.8	(-1.1, 1.4)
	Some College	High School/GED	-0.5	0.5	(-1.4, 0.3)
	Some College	Less than High School	0.9	0.8	(-0.3, 2.2)
	High School/GED	Less than High School	1.5**	0.7	(0.3, 2.6)

APPENDIX F: SUPPLEMENTAL MATERIALS FOR CHAPTER 6

Outcome	Subgroup A	Subgroup B	Difference (A minus B)	Standard Error	90% Confidence Interval
Earned ≥1 year college certificate or degree (%) ^a	Degree	Some College	-1.3	3.4	(-6.8, 4.3)
	Degree	High School/GED	2.6	2.7	(-1.8, 7.0)
	Degree	Less than High School	7.3**	3.3	(1.9, 12.6)
	Some College	High School/GED	3.9**	1.9	(0.8, 6.9)
	Some College	Less than High School	8.5***	2.3	(4.8, 12.3)
	High School/GED	Less than High School	4.7**	1.8	(1.6, 7.7)
Currently enrolled in training (%) ^a	Degree	Some College	-0.7	2.1	(-4.2, 2.7)
	Degree	High School/GED	-2.7	2.1	(-6.1, 0.7)
	Degree	Less than High School	-0.9	2.9	(-5.7, 3.8)
	Some College	High School/GED	-1.9	2.0	(-5.2, 1.3)
	Some College	Less than High School	-0.2	2.6	(-4.4, 4.0)
	High School/GED	Less than High School	1.8	2.8	(-2.8, 6.3)
Confidence in career knowledge (range is 1 to 4) ^a	Degree	Some College	-0.01	0.04	(-0.07, 0.05)
	Degree	High School/GED	0.00	0.04	(-0.06, 0.07)
	Degree	Less than High School	0.00	0.05	(-0.07, 0.08)
	Some College	High School/GED	0.01	0.03	(-0.03, 0.06)
	Some College	Less than High School	0.01	0.04	(-0.05, 0.07)
	High School/GED	Less than High School	0.00	0.04	(-0.06, 0.06)
Labor Market Outcomes					
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	Degree	Some College	-171	217	(-527, 185)
	Degree	High School/GED	162	222	(-203, 526)
	Degree	Less than High School	306	275	(-145, 757)
	Some College	High School/GED	333*	179	(39, 626)
	Some College	Less than High School	477**	239	(86, 868)
	High School/GED	Less than High School	144	245	(-257, 546)
Employment in 12th or 13th quarter (%) ^b	Degree	Some College	-0.8	2.0	(-4.0, 2.4)
	Degree	High School/GED	-0.8	2.0	(-4.0, 2.4)
	Degree	Less than High School	1.6	2.5	(-2.5, 5.7)
	Some College	High School/GED	-0.0	1.6	(-2.7, 2.7)
	Some College	Less than High School	2.4	2.2	(-1.2, 6.1)
	High School/GED	Less than High School	2.5	2.2	(-1.2, 6.1)
Current or most recent job is in healthcare (%) ^a	Degree	Some College	-0.4	3.3	(-5.8, 5.0)
	Degree	High School/GED	1.8	2.9	(-2.9, 6.5)
	Degree	Less than High School	3.2	3.5	(-2.6, 9.0)
	Some College	High School/GED	2.2	2.7	(-2.2, 6.7)
	Some College	Less than High School	3.6	3.5	(-2.1, 9.4)
	High School/GED	Less than High School	1.4	3.4	(-4.2, 7.0)
Current or most recent job offers health insurance (%) ^a	Degree	Some College	-1.1	2.9	(-5.9, 3.7)
	Degree	High School/GED	-2.0	3.3	(-7.4, 3.4)

APPENDIX F: SUPPLEMENTAL MATERIALS FOR CHAPTER 6

Outcome	Subgroup A	Subgroup B	Difference (A minus B)	Standard Error	90% Confidence Interval
	Degree	Less than High School	3.2	4.1	(-3.6, 10.0)
	Some College	High School/GED	-0.9	2.5	(-5.0, 3.2)
	Some College	Less than High School	4.3	3.4	(-1.3, 9.8)
	High School/GED	Less than High School	5.2	3.7	(-0.9, 11.2)
Training completion and earnings growth (%) ^c	Degree	Some College	-4.8	3.2	(-10.0, 0.4)
	Degree	High School/GED	-6.5**	3.2	(-11.8, -1.2)
	Degree	Less than High School	-1.4	4.0	(-8.0, 5.2)
	Some College	High School/GED	-1.7	2.6	(-5.9, 2.5)
	Some College	Less than High School	3.4	3.5	(-2.3, 9.1)
	High School/GED	Less than High School	5.1	3.6	(-0.9, 11.1)
General Well-Being Outcomes					
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	Degree	Some College	-0.4	2.9	(-5.2, 4.4)
	Degree	High School/GED	-4.3*	2.6	(-8.6, -0.1)
	Degree	Less than High School	-4.7	3.7	(-10.8, 1.4)
	Some College	High School/GED	-3.9*	2.3	(-7.6, -0.2)
	Some College	Less than High School	-4.3	3.3	(-9.7, 1.1)
	High School/GED	Less than High School	-0.4	3.4	(-6.0, 5.2)
Personally received TANF in the prior month (%) ^a	Degree	Some College	0.2	1.3	(-1.9, 2.3)
	Degree	High School/GED	-0.3	1.4	(-2.6, 2.0)
	Degree	Less than High School	0.9	2.1	(-2.5, 4.3)
	Some College	High School/GED	-0.5	1.3	(-2.6, 1.6)
	Some College	Less than High School	0.7	1.8	(-2.2, 3.6)
	High School/GED	Less than High School	1.2	2.0	(-2.1, 4.5)
Personally received SNAP in the prior month (%) ^a	Degree	Some College	-2.2	2.6	(-6.5, 2.1)
	Degree	High School/GED	-3.0	2.5	(-7.0, 1.1)
	Degree	Less than High School	-7.2**	3.5	(-12.9, -1.4)
	Some College	High School/GED	-0.8	2.2	(-4.4, 2.8)
	Some College	Less than High School	-5.0	3.0	(-9.9, -0.0)
	High School/GED	Less than High School	-4.2	3.4	(-9.8, 1.3)
Personally received Medicaid in the prior month (%) ^a	Degree	Some College	-1.1	2.8	(-5.7, 3.6)
	Degree	High School/GED	-4.3	2.8	(-8.9, 0.2)
	Degree	Less than High School	-2.7	3.8	(-8.9, 3.6)
	Some College	High School/GED	-3.2	2.2	(-6.8, 0.3)
	Some College	Less than High School	-1.6	3.5	(-7.3, 4.1)
	High School/GED	Less than High School	1.6	3.3	(-3.8, 7.1)

APPENDIX F: SUPPLEMENTAL MATERIALS FOR CHAPTER 6

Outcome	Subgroup A	Subgroup B	Difference (A minus B)	Standard Error	90% Confidence Interval
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	Degree	Some College	2.6	2.6	(-1.7, 6.8)
	Degree	High School/GED	2.2	2.9	(-2.6, 6.9)
	Degree	Less than High School	2.5	3.3	(-2.8, 7.9)
	Some College	High School/GED	-0.4	2.2	(-3.9, 3.1)
	Some College	Less than High School	-0.0	2.7	(-4.5, 4.5)
	High School/GED	Less than High School	0.4	3.3	(-5.0, 5.8)

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.11a: Impacts by Educational Attainment at Program Entry (Some Post-Secondary or More): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	82.3	71.9	10.4***	14.5	1.2	(8.5, 12.4)	3.0	3,327	1,832
Obtained certificate, license, or credential (%) ^a	62.2	49.7	12.5***	25.2	1.3	(10.4, 14.6)	3.2	3,327	1,832
Completed diploma or certificate for regular college classes (%) ^a	17.8	12.4	5.4***	43.3	1.1	(3.5, 7.2)	2.8	3,327	1,832
Completed vocational training certificate (%) ^a	21.0	13.5	7.4***	55.0	1.0	(5.8, 9.1)	2.5	3,327	1,832
Completed college degree (%) ^a	38.5	36.0	2.5**	6.9	1.2	(0.5, 4.5)	3.0	3,327	1,832
Months of full-time equivalent enrollment ^a	8.7	8.0	0.6**	8.0	0.3	(0.2, 1.1)	0.7	3,327	1,832
Earned ≥1 year college certificate or degree (%) ^a	42.7	38.5	4.1***	10.7	1.3	(2.0, 6.2)	3.2	3,327	1,832
Currently enrolled in training (%) ^a	14.2	15.1	-0.9	-5.9	1.0	(-2.5, 0.7)	2.4	3,327	1,832
Confidence in career knowledge (range is 1 to 4) ^a	3.45	3.42	0.03**	0.95	0.01	(0.01, 0.05)	0.03	3,557	1,961
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	5,685	5,505	180*	3.3	105	(7, 353)	262	4,641	2,698
Employment in 12th or 13th quarter (%) ^b	82.0	80.9	1.1	1.4	1.0	(-0.5, 2.7)	2.4	4,641	2,698
Current or most recent job is in healthcare (%) ^a	58.7	46.0	12.7***	27.5	1.3	(10.5, 14.8)	3.3	3,330	1,826
Current or most recent job offers health insurance (%) ^a	59.2	56.7	2.5*	4.4	1.3	(0.3, 4.7)	3.3	3,330	1,826
Training completion and earnings growth (%) ^c	47.6	41.5	6.1***	14.7	1.6	(3.4, 8.8)	4.0	3,330	1,826
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	41.2	41.7	-0.5	-1.2	1.0	(-2.2, 1.1)	2.5	3,329	1,832
Individual receipt of TANF (%) ^a	4.6	5.3	-0.8*	-14.4	0.5	(-1.5, -0.0)	1.1	3,329	1,832
Individual receipt of SNAP (%) ^a	28.2	29.2	-1.0	-3.4	0.8	(-2.4, 0.4)	2.1	3,329	1,832
Individual receipt of Medicaid (%) ^a	32.2	31.7	0.4	1.3	1.1	(-1.3, 2.2)	2.6	3,329	1,832
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	23.4	26.3	-2.9***	-10.9	1.1	(-4.7, -1.1)	2.8	3,329	1,832

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.11b: Impacts by Educational Attainment at Program Entry (High School or Less): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	66.6	51.3	15.3***	29.8	1.3	(13.2, 17.4)	3.2	2,700	1,473
Obtained certificate, license, or credential (%) ^a	53.0	39.9	13.0***	32.6	1.4	(10.7, 15.4)	3.5	2,700	1,473
Completed diploma or certificate for regular college classes (%) ^a	17.6	9.7	7.9***	81.0	1.2	(5.9, 9.8)	3.0	2,700	1,473
Completed vocational training certificate (%) ^a	22.7	14.6	8.1***	55.6	1.1	(6.3, 9.9)	2.7	2,700	1,473
Completed college degree (%) ^a	3.9	6.7	-2.8**	-41.7	1.1	(-4.6, -0.9)	2.8	2,700	1,473
Months of full-time equivalent enrollment ^a	6.2	5.3	0.9***	17.6	0.2	(0.6, 1.3)	0.6	2,700	1,473
Earned ≥1 year college certificate or degree (%) ^a	7.9	9.0	-1.2	-13.0	1.3	(-3.2, 0.9)	3.1	2,700	1,473
Currently enrolled in training (%) ^a	11.6	10.9	0.6	5.9	0.9	(-0.8, 2.0)	2.1	2,700	1,473
Confidence in career knowledge (range is 1 to 4) ^a	3.34	3.32	0.02	0.70	0.02	(-0.00, 0.05)	0.04	2,919	1,590
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	4,287	4,410	-123	-2.8	112	(-306, 60)	277	4,032	2,346
Employment in 12th or 13th quarter (%) ^b	81.9	81.1	0.8	1.0	1.0	(-0.9, 2.5)	2.6	4,032	2,346
Current or most recent job is in healthcare (%) ^a	51.6	41.2	10.4***	25.2	1.4	(8.1, 12.7)	3.4	2,697	1,479
Current or most recent job offers health insurance (%) ^a	57.7	55.5	2.1	3.9	1.4	(-0.2, 4.4)	3.5	2,697	1,479
Training completion and earnings growth (%) ^c	37.3	29.3	8.0***	27.4	1.8	(5.1, 10.9)	4.4	2,697	1,479
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	55.5	52.0	3.5***	6.7	1.2	(1.6, 5.4)	2.9	2,698	1,473
Individual receipt of TANF (%) ^a	6.9	7.7	-0.8	-10.5	0.6	(-1.9, 0.2)	1.6	2,698	1,473
Individual receipt of SNAP (%) ^a	40.9	39.5	1.3	3.4	1.0	(-0.2, 2.9)	2.4	2,698	1,473
Individual receipt of Medicaid (%) ^a	43.2	39.6	3.6***	9.2	1.2	(1.7, 5.6)	3.0	2,698	1,473
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	25.0	28.5	-3.5***	-12.3	1.1	(-5.3, -1.7)	2.7	2,698	1,473

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.12: Difference in Impacts by Educational Attainment (Two-Groups) at Program Entry

Outcome	Subgroup A	Subgroup B	Difference (A minus B)	Standard Error	90% Confidence Interval
Educational Progress Outcomes					
Training completion (%) ^a	Some College or More	High School or Less	-4.8***	1.2	(-6.8, -2.9)
Obtained certificate, license, or credential (%) ^a	Some College or More	High School or Less	-0.5	1.3	(-2.6, 1.6)
Completed diploma or certificate for regular college classes (%) ^a	Some College or More	High School or Less	-2.5**	1.1	(-4.3, -0.8)
Completed vocational training certificate (%) ^a	Some College or More	High School or Less	-0.7	1.2	(-2.7, 1.4)
Completed college degree (%) ^a	Some College or More	High School or Less	5.3***	1.0	(3.6, 7.0)
Months of full-time equivalent enrollment ^a	Some College or More	High School or Less	-0.3	0.3	(-0.8, 0.2)
Earned ≥1 year college certificate or degree (%) ^a	Some College or More	High School or Less	5.3***	1.1	(3.6, 7.0)
Currently enrolled in training (%) ^a	Some College or More	High School or Less	-1.5*	0.9	(-3.0, -0.0)
Confidence in career knowledge (range is 1 to 4) ^a	Some College or More	High School or Less	0.01	0.01	(-0.02, 0.03)
Labor Market Outcomes					
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	Some College or More	High School or Less	303**	150	(57, 548)
Employment in 12th or 13th quarter (%) ^b	Some College or More	High School or Less	0.3	1.4	(-1.9, 2.5)
Current or most recent job is in healthcare (%) ^a	Some College or More	High School or Less	2.3	1.5	(-0.2, 4.7)
Current or most recent job offers health insurance (%) ^a	Some College or More	High School or Less	0.4	1.4	(-2.0, 2.7)
Training completion and earnings growth (%) ^c	Some College or More	High School or Less	-1.9	2.1	(-5.4, 1.6)
General Well-Being Outcomes					
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	Some College or More	High School or Less	-4.0***	1.3	(-6.1, -1.8)
Personally received TANF in the prior month (%) ^a	Some College or More	High School or Less	0.0	0.6	(-1.0, 1.1)
Personally received SNAP in the prior month (%) ^a	Some College or More	High School or Less	-2.3**	1.2	(-4.3, -0.4)
Personally received Medicaid in the prior month (%) ^a	Some College or More	High School or Less	-3.2**	1.4	(-5.5, -0.9)
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	Some College or More	High School or Less	0.6	1.1	(-1.2, 2.4)

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

F.2.2 Barriers to School and Work at Program Entry

As specified in the *Three-Year Analysis Plan*, we estimated impacts on subgroups defined by one of three levels of self-reported barriers to school and work at the time of program entry: two or more barriers, one barrier, and no barriers. As noted in Chapter 6, for ease of interpretation we collapsed the subgroups even further: one or more barriers versus no barriers.

The tables that follow report details of impact estimation for *both* definitions of the subgroups: the three groups as defined in the *Three-Year Analysis Plan* and the two groups as reported in Chapter 6.

Exhibit F.13a: Impacts by Barriers to School and Work at Program Entry (Two or More Barriers): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	73.6	59.5	14.0***	23.5	2.1	(10.6, 17.4)	5.1	607	388
Obtained certificate, license, or credential (%) ^a	58.7	46.0	12.6***	27.5	2.4	(8.7, 16.6)	6.0	607	388
Completed diploma or certificate for regular college classes (%) ^a	16.9	8.7	8.3***	95.5	1.9	(5.1, 11.4)	4.8	607	388
Completed vocational training certificate (%) ^a	22.1	12.7	9.4***	74.1	1.9	(6.3, 12.6)	4.8	607	388
Completed college degree (%) ^a	21.8	20.6	1.1	5.5	2.1	(-2.3, 4.5)	5.2	607	388
Months of full-time equivalent enrollment ^a	7.7	6.9	0.8*	11.9	0.5	(0.1, 1.6)	1.1	607	388
Earned ≥1 year college certificate or degree (%) ^a	25.0	22.8	2.2	9.8	2.2	(-1.4, 5.8)	5.5	607	388
Currently enrolled in training (%) ^a	14.1	12.2	1.9	15.3	1.7	(-0.9, 4.6)	4.2	607	388
Confidence in career knowledge (range is 1 to 4) ^a	3.32	3.29	0.02	0.71	0.03	(-0.03, 0.07)	0.08	659	424
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	4,467	4,535	-68	-1.5	231	(-447, 310)	574	844	569
Employment in 12th or 13th quarter (%) ^b	77.8	80.0	-2.2	-2.8	2.2	(-5.8, 1.4)	5.4	844	569
Current or most recent job is in healthcare (%) ^a	54.2	43.1	11.1***	25.8	2.4	(7.2, 15.0)	5.9	599	376
Current or most recent job offers health insurance (%) ^a	55.1	50.0	5.1**	10.3	2.3	(1.3, 9.0)	5.8	599	376
Training completion and earnings growth (%) ^c	41.6	35.3	6.3*	18.0	3.4	(0.8, 11.9)	8.4	599	376
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	59.0	55.8	3.2	5.7	2.0	(-0.1, 6.5)	5.0	603	383
Individual receipt of TANF (%) ^a	6.8	9.3	-2.6**	-27.4	1.1	(-4.4, -0.7)	2.8	603	383
Individual receipt of SNAP (%) ^a	45.0	42.5	2.4	5.8	2.2	(-1.1, 6.0)	5.4	603	383
Individual receipt of Medicaid (%) ^a	45.1	42.0	3.1	7.5	2.1	(-0.3, 6.6)	5.3	603	383
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	33.9	36.3	-2.4	-6.5	2.3	(-6.2, 1.4)	5.8	603	383

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.13b: Impacts by Barriers to School and Work at Program Entry (One Barrier): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	75.0	58.8	16.2***	27.5	1.7	(13.4, 19.0)	4.3	1,428	821
Obtained certificate, license, or credential (%) ^a	58.5	42.5	16.0***	37.8	2.0	(12.7, 19.4)	5.1	1,428	821
Completed diploma or certificate for regular college classes (%) ^a	17.8	9.4	8.3***	88.4	1.4	(6.1, 10.6)	3.4	1,428	821
Completed vocational training certificate (%) ^a	21.4	11.3	10.1***	89.4	1.3	(8.0, 12.2)	3.2	1,428	821
Completed college degree (%) ^a	21.0	21.6	-0.6	-2.9	1.5	(-3.1, 1.8)	3.8	1,428	821
Months of full-time equivalent enrollment ^a	7.7	7.0	0.7***	10.5	0.3	(0.3, 1.2)	0.7	1,428	821
Earned ≥1 year college certificate or degree (%) ^a	25.1	23.5	1.6	6.8	1.5	(-0.9, 4.1)	3.8	1,428	821
Currently enrolled in training (%) ^a	13.8	13.6	0.2	1.6	1.1	(-1.6, 2.0)	2.7	1,428	821
Confidence in career knowledge (range is 1 to 4) ^a	3.38	3.32	0.06***	1.82	0.02	(0.03, 0.09)	0.04	1,528	886
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	4,561	4,715	-154	-3.3	153	(-406, 98)	382	1,995	1,245
Employment in 12th or 13th quarter (%) ^b	79.3	79.8	-0.5	-0.6	1.5	(-2.9, 1.9)	3.7	1,995	1,245
Current or most recent job is in healthcare (%) ^a	54.7	43.1	11.6***	26.8	1.8	(8.6, 14.5)	4.5	1,421	822
Current or most recent job offers health insurance (%) ^a	56.7	54.5	2.1	3.9	1.6	(-0.6, 4.8)	4.1	1,421	822
Training completion and earnings growth (%) ^c	41.3	33.0	8.3***	25.2	2.3	(4.6, 12.1)	5.7	1,421	822
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	52.9	50.0	2.9**	5.8	1.3	(0.7, 5.1)	3.3	1,424	826
Individual receipt of TANF (%) ^a	6.2	6.6	-0.4	-6.2	0.8	(-1.7, 0.9)	1.9	1,424	826
Individual receipt of SNAP (%) ^a	39.4	39.3	0.0	0.1	1.2	(-2.0, 2.1)	3.1	1,424	826
Individual receipt of Medicaid (%) ^a	40.4	37.7	2.7*	7.1	1.4	(0.4, 5.0)	3.5	1,424	826
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	25.2	28.5	-3.3**	-11.5	1.4	(-5.6, -1.0)	3.5	1,424	826

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.13c: Impacts by Barriers to School and Work at Program Entry (No Barriers): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	75.6	64.6	11.0***	17.1	1.2	(9.1, 13.0)	2.9	3,993	2,096
Obtained certificate, license, or credential (%) ^a	57.8	46.2	11.6***	25.1	1.3	(9.4, 13.8)	3.3	3,993	2,096
Completed diploma or certificate for regular college classes (%) ^a	17.8	12.2	5.6***	45.5	1.1	(3.8, 7.4)	2.7	3,993	2,096
Completed vocational training certificate (%) ^a	21.9	15.1	6.7***	44.6	1.0	(5.2, 8.3)	2.4	3,993	2,096
Completed college degree (%) ^a	24.1	24.1	0.0	0.2	1.1	(-1.8, 1.9)	2.8	3,993	2,096
Months of full-time equivalent enrollment ^a	7.5	6.8	0.8***	11.2	0.2	(0.4, 1.1)	0.6	3,993	2,096
Earned ≥1 year college certificate or degree (%) ^a	28.1	26.7	1.3	5.0	1.2	(-0.6, 3.3)	3.0	3,993	2,096
Currently enrolled in training (%) ^a	12.7	13.3	-0.7	-5.0	0.9	(-2.1, 0.7)	2.1	3,993	2,096
Confidence in career knowledge (range is 1 to 4) ^a	3.42	3.41	0.01	0.40	0.01	(-0.01, 0.04)	0.04	4,289	2,242
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	5,303	5,188	115	2.2	95	(-41, 272)	237	5,833	3,230
Employment in 12th or 13th quarter (%) ^b	83.5	81.6	1.9**	2.3	0.9	(0.4, 3.4)	2.3	5,833	3,230
Current or most recent job is in healthcare (%) ^a	56.0	44.2	11.7***	26.5	1.2	(9.8, 13.7)	3.0	4,008	2,106
Current or most recent job offers health insurance (%) ^a	59.6	57.7	2.0	3.4	1.3	(-0.2, 4.1)	3.3	4,008	2,106
Training completion and earnings growth (%) ^c	43.6	37.2	6.3***	17.1	1.5	(3.9, 8.8)	3.7	4,008	2,106
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	43.8	43.1	0.6	1.4	1.0	(-1.0, 2.3)	2.5	4,000	2,097
Individual receipt of TANF (%) ^a	5.2	5.8	-0.6	-10.6	0.5	(-1.4, 0.2)	1.2	4,000	2,097
Individual receipt of SNAP (%) ^a	30.0	30.1	-0.1	-0.4	0.8	(-1.4, 1.2)	2.0	4,000	2,097
Individual receipt of Medicaid (%) ^a	34.6	33.0	1.6	4.7	1.0	(-0.1, 3.2)	2.5	4,000	2,097
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	22.1	25.1	-3.1***	-12.2	1.1	(-4.9, -1.3)	2.8	4,000	2,097

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.14: Difference in Impacts by Barriers (Three Groups) to School and Work at Program Entry

Outcome	Subgroup A	Subgroup B	Difference (A minus B)	Standard Error	90% Confidence Interval
Educational Progress Outcomes					
Training completion (%) ^a	2 or more Barriers	1 Barrier	-2.2	2.5	(-6.3, 1.9)
	2 or more Barriers	No Barriers	3.0	2.1	(-0.5, 6.5)
	1 Barrier	No Barriers	5.2***	1.7	(2.5, 7.9)
Obtained certificate, license, or credential (%) ^a	2 or more Barriers	1 Barrier	-3.4	3.1	(-8.4, 1.6)
	2 or more Barriers	No Barriers	1.1	2.5	(-3.0, 5.2)
	1 Barrier	No Barriers	4.5**	2.1	(1.0, 8.0)
Completed diploma or certificate for regular college classes (%) ^a	2 or more Barriers	1 Barrier	-0.1	1.9	(-3.2, 3.1)
	2 or more Barriers	No Barriers	2.7	1.7	(-0.1, 5.4)
	1 Barrier	No Barriers	2.8**	1.3	(0.6, 4.9)
Completed vocational training certificate (%) ^a	2 or more Barriers	1 Barrier	-0.7	2.3	(-4.4, 3.0)
	2 or more Barriers	No Barriers	2.7	2.1	(-0.7, 6.1)
	1 Barrier	No Barriers	3.4***	1.3	(1.3, 5.5)
Completed college degree (%) ^a	2 or more Barriers	1 Barrier	1.8	2.2	(-1.8, 5.3)
	2 or more Barriers	No Barriers	1.1	1.9	(-2.1, 4.2)
	1 Barrier	No Barriers	-0.7	1.4	(-2.9, 1.6)
Months of full-time equivalent enrollment ^a	2 or more Barriers	1 Barrier	0.1	0.5	(-0.7, 0.9)
	2 or more Barriers	No Barriers	0.1	0.4	(-0.7, 0.8)
	1 Barrier	No Barriers	-0.0	0.3	(-0.5, 0.4)
Earned ≥1 year college certificate or degree (%) ^a	2 or more Barriers	1 Barrier	0.6	2.3	(-3.1, 4.4)
	2 or more Barriers	No Barriers	0.9	2.0	(-2.4, 4.1)
	1 Barrier	No Barriers	0.3	1.4	(-2.1, 2.6)
Currently enrolled in training (%) ^a	2 or more Barriers	1 Barrier	1.7	1.7	(-1.1, 4.4)
	2 or more Barriers	No Barriers	2.5	1.6	(-0.0, 5.1)
	1 Barrier	No Barriers	0.9	1.2	(-1.0, 2.8)
Confidence in career knowledge (range is 1 to 4) ^a	2 or more Barriers	1 Barrier	-0.04	0.03	(-0.09, 0.02)
	2 or more Barriers	No Barriers	0.01	0.03	(-0.04, 0.06)
	1 Barrier	No Barriers	0.05***	0.02	(0.02, 0.08)
Labor Market Outcomes					
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	2 or more Barriers	1 Barrier	86	278	(-371, 542)
	2 or more Barriers	No Barriers	-184	251	(-595, 228)
	1 Barrier	No Barriers	-269	177	(-560, 22)
Employment in 12th or 13th quarter (%) ^b	2 or more Barriers	1 Barrier	-1.7	2.6	(-6.0, 2.5)
	2 or more Barriers	No Barriers	-4.1*	2.4	(-8.1, -0.1)
	1 Barrier	No Barriers	-2.4	1.8	(-5.3, 0.5)
Current or most recent job is in healthcare (%) ^a	2 or more Barriers	1 Barrier	-0.5	2.8	(-5.1, 4.1)
	2 or more Barriers	No Barriers	-0.6	2.4	(-4.6, 3.4)
	1 Barrier	No Barriers	-0.1	1.7	(-2.9, 2.6)

APPENDIX F: SUPPLEMENTAL MATERIALS FOR CHAPTER 6

Outcome	Subgroup A	Subgroup B	Difference (A minus B)	Standard Error	90% Confidence Interval
Current or most recent job offers health insurance (%) ^a	2 or more Barriers	1 Barrier	3.0	2.8	(-1.5, 7.5)
	2 or more Barriers	No Barriers	3.2	2.4	(-0.8, 7.1)
	1 Barrier	No Barriers	0.2	1.6	(-2.5, 2.9)
Training completion and earnings growth (%) ^c	2 or more Barriers	1 Barrier	-2.0	3.9	(-8.4, 4.5)
	2 or more Barriers	No Barriers	-0.0	3.6	(-5.9, 5.8)
	1 Barrier	No Barriers	2.0	2.5	(-2.2, 6.1)
General Well-Being Outcomes					
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	2 or more Barriers	1 Barrier	0.3	2.3	(-3.5, 4.1)
	2 or more Barriers	No Barriers	2.6	2.1	(-0.9, 6.1)
	1 Barrier	No Barriers	2.3	1.5	(-0.2, 4.8)
Personally received TANF in the prior month (%) ^a	2 or more Barriers	1 Barrier	-2.1	1.4	(-4.4, 0.1)
	2 or more Barriers	No Barriers	-1.9*	1.2	(-3.8, -0.0)
	1 Barrier	No Barriers	0.2	0.8	(-1.1, 1.5)
Personally received SNAP in the prior month (%) ^a	2 or more Barriers	1 Barrier	2.4	2.3	(-1.4, 6.2)
	2 or more Barriers	No Barriers	2.6	2.3	(-1.1, 6.3)
	1 Barrier	No Barriers	0.2	1.5	(-2.2, 2.6)
Personally received Medicaid in the prior month (%) ^a	2 or more Barriers	1 Barrier	0.4	2.4	(-3.6, 4.5)
	2 or more Barriers	No Barriers	1.6	2.2	(-2.0, 5.1)
	1 Barrier	No Barriers	1.1	1.5	(-1.3, 3.6)
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	2 or more Barriers	1 Barrier	0.9	2.5	(-3.2, 5.0)
	2 or more Barriers	No Barriers	0.7	2.4	(-3.2, 4.6)
	1 Barrier	No Barriers	-0.2	1.6	(-2.8, 2.4)

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.15a: Impacts by Barriers to School and Work at Program Entry (One or More Barriers): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	74.7	59.0	15.6***	26.5	1.8	(12.7, 18.6)	4.5	2,034	1,209
Obtained certificate, license, or credential (%) ^a	58.7	43.6	15.1***	34.7	2.1	(11.7, 18.5)	5.2	2,034	1,209
Completed diploma or certificate for regular college classes (%) ^a	17.5	9.2	8.4***	90.9	1.5	(5.9, 10.8)	3.8	2,034	1,209
Completed vocational training certificate (%) ^a	21.6	11.7	9.9***	84.2	1.5	(7.4, 12.4)	3.8	2,034	1,209
Completed college degree (%) ^a	21.1	21.3	-0.2	-0.9	1.7	(-2.9, 2.5)	4.2	2,034	1,209
Months of full-time equivalent enrollment ^a	7.7	7.0	0.8**	10.9	0.4	(0.2, 1.3)	0.9	2,034	1,209
Earned ≥1 year college certificate or degree (%) ^a	25.0	23.3	1.7	7.4	1.7	(-1.1, 4.6)	4.3	2,034	1,209
Currently enrolled in training (%) ^a	13.8	13.2	0.7	5.2	1.3	(-1.5, 2.8)	3.3	2,034	1,209
Confidence in career knowledge (range is 1 to 4) ^a	3.36	3.31	0.05**	1.51	0.02	(0.01, 0.09)	0.06	2,187	1,310
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	4,532	4,659	-127	-2.7	127	(-335, 82)	316	2,839	1,814
Employment in 12th or 13th quarter (%) ^b	78.8	79.8	-1.0	-1.3	1.3	(-3.1, 1.1)	3.1	2,839	1,814
Current or most recent job is in healthcare (%) ^a	54.7	43.1	11.5***	26.7	2.1	(8.1, 15.0)	5.2	2,019	1,199
Current or most recent job offers health insurance (%) ^a	56.3	53.2	3.2*	6.0	1.9	(0.1, 6.3)	4.7	2,019	1,199
Training completion and earnings growth (%) ^c	41.6	33.6	8.0***	23.9	2.0	(4.8, 11.3)	4.9	2,019	1,199
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	54.8	51.9	3.0*	5.7	1.7	(0.2, 5.8)	4.2	2,028	1,208
Individual receipt of TANF (%) ^a	6.4	7.4	-1.1	-14.5	0.9	(-2.5, 0.4)	2.2	2,028	1,208
Individual receipt of SNAP (%) ^a	41.1	40.3	0.8	2.0	1.8	(-2.1, 3.7)	4.4	2,028	1,208
Individual receipt of Medicaid (%) ^a	41.8	39.0	2.8*	7.1	1.7	(0.1, 5.5)	4.2	2,028	1,208
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	27.9	31.0	-3.1*	-10.0	1.8	(-6.1, -0.1)	4.6	2,028	1,208

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.15b: Impacts by Barriers to School and Work at Program Entry (No Barriers): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	75.6	64.6	11.0***	17.1	1.2	(9.0, 13.1)	3.1	3,993	2,096
Obtained certificate, license, or credential (%) ^a	57.8	46.2	11.6***	25.1	1.4	(9.3, 13.9)	3.5	3,993	2,096
Completed diploma or certificate for regular college classes (%) ^a	17.8	12.2	5.6***	45.5	1.2	(3.7, 7.5)	2.9	3,993	2,096
Completed vocational training certificate (%) ^a	21.9	15.1	6.7***	44.6	1.1	(5.0, 8.5)	2.7	3,993	2,096
Completed college degree (%) ^a	24.1	24.1	0.0	0.2	1.1	(-1.8, 1.9)	2.8	3,993	2,096
Months of full-time equivalent enrollment ^a	7.5	6.8	0.8***	11.2	0.3	(0.3, 1.2)	0.6	3,993	2,096
Earned ≥1 year college certificate or degree (%) ^a	28.1	26.7	1.3	5.0	1.2	(-0.7, 3.3)	3.0	3,993	2,096
Currently enrolled in training (%) ^a	12.7	13.3	-0.7	-5.0	1.0	(-2.3, 0.9)	2.4	3,993	2,096
Confidence in career knowledge (range is 1 to 4) ^a	3.42	3.41	0.01	0.40	0.02	(-0.01, 0.04)	0.04	4,289	2,242
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	5,303	5,188	115	2.2	95	(-41, 272)	237	5,833	3,230
Employment in 12th or 13th quarter (%) ^b	83.5	81.6	1.9**	2.3	0.9	(0.4, 3.4)	2.3	5,833	3,230
Current or most recent job is in healthcare (%) ^a	56.0	44.2	11.7***	26.5	1.3	(9.7, 13.8)	3.1	4,008	2,106
Current or most recent job offers health insurance (%) ^a	59.6	57.7	2.0	3.4	1.4	(-0.4, 4.3)	3.5	4,008	2,106
Training completion and earnings growth (%) ^c	43.7	37.4	6.3***	16.8	1.5	(3.8, 8.8)	3.7	4,008	2,106
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	43.8	43.1	0.6	1.4	1.1	(-1.2, 2.4)	2.7	4,000	2,097
Individual receipt of TANF (%) ^a	5.2	5.8	-0.6	-10.6	0.5	(-1.5, 0.2)	1.3	4,000	2,097
Individual receipt of SNAP (%) ^a	30.0	30.1	-0.1	-0.4	0.9	(-1.6, 1.4)	2.3	4,000	2,097
Individual receipt of Medicaid (%) ^a	34.6	33.0	1.6	4.7	1.1	(-0.2, 3.4)	2.7	4,000	2,097
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	22.1	25.1	-3.1**	-12.2	1.3	(-5.2, -0.9)	3.3	4,000	2,097

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.16: Difference in Impacts by Barriers (Two Groups) to School and Work at Program Entry

Outcome	Subgroup A	Subgroup B	Difference (A minus B)	Standard Error	90% Confidence Interval
Educational Progress Outcomes					
Training completion (%) ^a	1 or more Barriers	No Barriers	4.6**	2.1	(1.2, 8.0)
Obtained certificate, license, or credential (%) ^a	1 or more Barriers	No Barriers	3.5	2.5	(-0.5, 7.6)
Completed diploma or certificate for regular college classes (%) ^a	1 or more Barriers	No Barriers	2.8*	1.6	(0.1, 5.4)
Completed vocational training certificate (%) ^a	1 or more Barriers	No Barriers	3.1	2.0	(-0.1, 6.4)
Completed college degree (%) ^a	1 or more Barriers	No Barriers	-0.2	1.7	(-3.0, 2.5)
Months of full-time equivalent enrollment ^a	1 or more Barriers	No Barriers	0.0	0.4	(-0.7, 0.7)
Earned ≥1 year college certificate or degree (%) ^a	1 or more Barriers	No Barriers	0.4	1.8	(-2.5, 3.3)
Currently enrolled in training (%) ^a	1 or more Barriers	No Barriers	1.4	1.6	(-1.3, 4.0)
Confidence in career knowledge (range is 1 to 4) ^a	1 or more Barriers	No Barriers	0.04	0.03	(-0.01, 0.08)
Labor Market Outcomes					
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	1 or more Barriers	No Barriers	-242	157	(-500, 16)
Employment in 12th or 13th quarter (%) ^b	1 or more Barriers	No Barriers	-2.9*	1.6	(-5.5, -0.3)
Current or most recent job is in healthcare (%) ^a	1 or more Barriers	No Barriers	-0.2	2.4	(-4.1, 3.7)
Current or most recent job offers health insurance (%) ^a	1 or more Barriers	No Barriers	1.2	2.3	(-2.6, 5.0)
Training completion and earnings growth (%) ^c	1 or more Barriers	No Barriers	1.7	2.2	(-1.9, 5.4)
General Well-Being Outcomes					
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	1 or more Barriers	No Barriers	2.4	2.2	(-1.2, 5.9)
Personally received TANF in the prior month (%) ^a	1 or more Barriers	No Barriers	-0.5	1.0	(-2.2, 1.2)
Personally received SNAP in the prior month (%) ^a	1 or more Barriers	No Barriers	0.9	2.3	(-2.8, 4.6)
Personally received Medicaid in the prior month (%) ^a	1 or more Barriers	No Barriers	1.2	2.1	(-2.2, 4.6)
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	1 or more Barriers	No Barriers	-0.0	2.5	(-4.1, 4.1)

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.17a: Impacts by Employment at Program Entry (Employed): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	77.3	68.3	9.0***	13.1	1.5	(6.5, 11.5)	3.8	2,641	1,409
Obtained certificate, license, or credential (%) ^a	61.4	49.4	12.1***	24.4	2.0	(8.8, 15.3)	5.0	2,641	1,409
Completed diploma or certificate for regular college classes (%) ^a	18.2	13.3	5.0***	37.7	1.2	(3.0, 7.0)	3.1	2,641	1,409
Completed vocational training certificate (%) ^a	21.6	15.2	6.3***	41.5	1.4	(4.1, 8.5)	3.4	2,641	1,409
Completed college degree (%) ^a	25.6	26.0	-0.4	-1.5	1.6	(-3.0, 2.2)	4.0	2,641	1,409
Months of full-time equivalent enrollment ^a	8.1	7.5	0.6*	8.0	0.3	(0.0, 1.2)	0.8	2,641	1,409
Earned ≥1 year college certificate or degree (%) ^a	29.7	29.2	0.5	1.7	1.7	(-2.3, 3.3)	4.3	2,641	1,409
Currently enrolled in training (%) ^a	13.5	14.6	-1.1	-7.6	1.2	(-3.0, 0.8)	2.9	2,641	1,409
Confidence in career knowledge (range is 1 to 4) ^a	3.42	3.41	0.02	0.48	0.02	(-0.01, 0.05)	0.04	2,849	1,508
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	6,079	5,953	125	2.1	116	(-64, 315)	287	3,682	2,095
Employment in 12th or 13th quarter (%) ^b	89.0	88.4	0.6	0.7	1.1	(-1.1, 2.3)	2.6	3,682	2,095
Current or most recent job is in healthcare (%) ^a	64.2	52.7	11.5***	21.9	1.6	(8.8, 14.2)	4.1	2,612	1,391
Current or most recent job offers health insurance (%) ^a	66.0	62.9	3.1*	5.0	1.8	(0.1, 6.1)	4.5	2,612	1,391
Training completion and earnings growth (%) ^c	46.6	41.1	5.5***	13.5	1.8	(2.6, 8.4)	4.4	2,612	1,391
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	39.7	39.4	0.3	0.8	1.5	(-2.1, 2.8)	3.7	2,639	1,416
Individual receipt of TANF (%) ^a	3.3	5.0	-1.7**	-33.5	0.7	(-2.9, -0.5)	1.8	2,639	1,416
Individual receipt of SNAP (%) ^a	27.5	26.5	1.1	4.0	1.2	(-0.9, 3.0)	3.0	2,639	1,416
Individual receipt of Medicaid (%) ^a	30.4	30.4	-0.0	-0.0	1.4	(-2.2, 2.2)	3.4	2,639	1,416
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	20.5	22.6	-2.2*	-9.6	1.3	(-4.3, -0.0)	3.3	2,639	1,416

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.17b: Impacts by Employment at Program Entry (Not Employed): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	74.0	58.6	15.4***	26.2	1.5	(12.8, 17.9)	3.8	3,386	1,896
Obtained certificate, license, or credential (%) ^a	55.7	42.4	13.3***	31.5	1.5	(10.9, 15.8)	3.7	3,386	1,896
Completed diploma or certificate for regular college classes (%) ^a	17.4	9.7	7.7***	78.8	1.3	(5.5, 9.8)	3.3	3,386	1,896
Completed vocational training certificate (%) ^a	22.0	13.1	8.9***	68.4	1.1	(7.1, 10.8)	2.8	3,386	1,896
Completed college degree (%) ^a	21.1	20.9	0.3	1.3	1.3	(-1.8, 2.4)	3.2	3,386	1,896
Months of full-time equivalent enrollment ^a	7.2	6.3	0.9***	14.2	0.3	(0.4, 1.4)	0.7	3,386	1,896
Earned ≥1 year college certificate or degree (%) ^a	25.0	22.7	2.3*	10.1	1.4	(0.1, 4.6)	3.4	3,386	1,896
Currently enrolled in training (%) ^a	12.7	12.3	0.5	3.8	0.9	(-1.1, 2.0)	2.4	3,386	1,896
Confidence in career knowledge (range is 1 to 4) ^a	3.39	3.35	0.04**	1.12	0.02	(0.01, 0.06)	0.04	3,627	2,043
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	4,304	4,315	-11	-0.3	101	(-176, 154)	250	4,990	2,949
Employment in 12th or 13th quarter (%) ^b	77.0	75.7	1.3	1.7	0.9	(-0.2, 2.8)	2.3	4,990	2,949
Current or most recent job is in healthcare (%) ^a	49.3	37.3	12.0***	32.1	1.4	(9.6, 14.3)	3.5	3,415	1,914
Current or most recent job offers health insurance (%) ^a	53.0	51.1	1.9	3.7	1.4	(-0.4, 4.2)	3.4	3,415	1,914
Training completion and earnings growth (%) ^c	40.3	32.3	8.0***	24.8	1.7	(5.3, 10.8)	4.2	3,415	1,914
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	53.5	51.5	2.1	4.0	1.3	(-0.1, 4.3)	3.3	3,388	1,889
Individual receipt of TANF (%) ^a	7.4	7.5	-0.1	-1.5	0.7	(-1.2, 1.0)	1.7	3,388	1,889
Individual receipt of SNAP (%) ^a	38.6	39.3	-0.7	-1.7	1.2	(-2.7, 1.3)	3.0	3,388	1,889
Individual receipt of Medicaid (%) ^a	42.3	38.9	3.5***	8.9	1.3	(1.4, 5.6)	3.2	3,388	1,889
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	26.8	30.7	-3.9***	-12.8	1.3	(-6.0, -1.8)	3.2	3,388	1,889

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.18: Difference in Impacts by Employment at Program Entry

Outcome	Subgroup A	Subgroup B	Difference (A minus B)	Standard Error	90% Confidence Interval
Educational Progress Outcomes					
Training completion (%) ^a	Employed	Not Employed	-6.4***	2.2	(-10.0, -2.8)
Obtained certificate, license, or credential (%) ^a	Employed	Not Employed	-1.3	2.6	(-5.6, 3.0)
Completed diploma or certificate for regular college classes (%) ^a	Employed	Not Employed	-2.7*	1.5	(-5.1, -0.2)
Completed vocational training certificate (%) ^a	Employed	Not Employed	-2.6	1.8	(-5.6, 0.4)
Completed college degree (%) ^a	Employed	Not Employed	-0.7	1.9	(-3.8, 2.5)
Months of full-time equivalent enrollment ^a	Employed	Not Employed	-0.3	0.4	(-1.0, 0.4)
Earned ≥1 year college certificate or degree (%) ^a	Employed	Not Employed	-1.8	2.1	(-5.2, 1.6)
Currently enrolled in training (%) ^a	Employed	Not Employed	-1.6	1.4	(-3.9, 0.7)
Confidence in career knowledge (range is 1 to 4) ^a	Employed	Not Employed	-0.02	0.02	(-0.06, 0.02)
Labor Market Outcomes					
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	Employed	Not Employed	136	150	(-110, 383)
Employment in 12th or 13th quarter (%) ^b	Employed	Not Employed	-0.7	1.4	(-2.9, 1.6)
Current or most recent job is in healthcare (%) ^a	Employed	Not Employed	-0.5	2.1	(-3.9, 3.0)
Current or most recent job offers health insurance (%) ^a	Employed	Not Employed	1.2	2.2	(-2.4, 4.8)
Training completion and earnings growth (%) ^c	Employed	Not Employed	-2.5	2.3	(-6.2, 1.2)
General Well-Being Outcomes					
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	Employed	Not Employed	-1.7	2.2	(-5.4, 1.9)
Personally received TANF in the prior month (%) ^a	Employed	Not Employed	-1.6	1.1	(-3.3, 0.2)
Personally received SNAP in the prior month (%) ^a	Employed	Not Employed	1.7	2.0	(-1.5, 5.0)
Personally received Medicaid in the prior month (%) ^a	Employed	Not Employed	-3.5*	1.9	(-6.7, -0.3)
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	Employed	Not Employed	1.8	1.8	(-1.2, 4.7)

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

F.3 Impacts of HPOG on Public Assistance Subgroups: Supplemental Materials

Exhibit F.19a: Impacts by TANF or SNAP/WIC Receipt at Program Entry (Received TANF): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	73.1	60.1	13.0***	21.7	3.3	(7.6, 18.5)	8.3	674	399
Obtained certificate, license, or credential (%) ^a	58.5	45.8	12.7***	27.7	3.4	(7.0, 18.3)	8.6	674	399
Completed diploma or certificate for regular college classes (%) ^a	16.4	11.6	4.7*	40.5	2.4	(0.7, 8.7)	6.0	674	399
Completed vocational training certificate (%) ^a	22.9	13.3	9.5***	71.7	2.5	(5.4, 13.7)	6.3	674	399
Completed college degree (%) ^a	14.0	15.0	-1.0	-6.5	2.4	(-4.9, 3.0)	6.0	674	399
Months of full-time equivalent enrollment ^a	6.6	5.9	0.8	12.8	0.5	(-0.1, 1.6)	1.3	674	399
Earned ≥1 year college certificate or degree (%) ^a	16.9	17.5	-0.6	-3.7	2.5	(-4.8, 3.5)	6.2	674	399
Currently enrolled in training (%) ^a	10.8	11.8	-1.1	-9.2	1.9	(-4.2, 2.0)	4.7	674	399
Confidence in career knowledge (range is 1 to 4) ^a	3.39	3.36	0.03	0.92	0.03	(-0.02, 0.09)	0.08	743	429
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	3,856	3,969	-113	-2.9	210	(-458, 231)	522	1,032	640
Employment in 12th or 13th quarter (%) ^b	79.6	77.2	2.4	3.1	2.0	(-0.9, 5.6)	4.9	1,032	640
Current or most recent job is in healthcare (%) ^a	51.6	40.2	11.4***	28.3	3.2	(6.2, 16.6)	7.9	674	398
Current or most recent job offers health insurance (%) ^a	53.2	51.8	1.4	2.7	2.7	(-3.0, 5.8)	6.7	674	398
Training completion and earnings growth (%) ^c	39.7	34.2	5.5*	16.1	3.2	(0.3, 10.7)	7.9	674	398
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	76.0	70.5	5.5**	7.8	2.8	(1.0, 10.0)	6.8	674	397
Individual receipt of TANF (%) ^a	17.8	17.9	-0.2	-0.9	2.1	(-3.6, 3.3)	5.3	674	397
Individual receipt of SNAP (%) ^a	62.5	59.0	3.5	6.0	2.8	(-1.1, 8.1)	7.0	674	397
Individual receipt of Medicaid (%) ^a	59.9	51.3	8.6***	16.9	2.7	(4.1, 13.1)	6.8	674	397
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	33.5	38.8	-5.3**	-13.6	2.7	(-9.6, -0.9)	6.6	674	397

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.19b: Impacts by TANF or SNAP/WIC Receipt at Program Entry (Received SNAP/WIC, no TANF): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	74.1	58.4	15.7***	26.9	1.6	(13.0, 18.4)	4.1	2,821	1,624
Obtained certificate, license, or credential (%) ^a	58.1	44.0	14.1***	32.1	1.7	(11.4, 16.9)	4.2	2,821	1,624
Completed diploma or certificate for regular college classes (%) ^a	17.5	10.2	7.3***	71.1	1.3	(5.1, 9.5)	3.4	2,821	1,624
Completed vocational training certificate (%) ^a	22.6	12.0	10.7***	88.9	1.3	(8.6, 12.7)	3.1	2,821	1,624
Completed college degree (%) ^a	19.2	18.7	0.6	3.0	1.5	(-1.9, 3.1)	3.8	2,821	1,624
Months of full-time equivalent enrollment ^a	7.2	6.3	0.9***	14.7	0.3	(0.4, 1.5)	0.8	2,821	1,624
Earned ≥1 year college certificate or degree (%) ^a	23.5	21.2	2.2	10.6	1.6	(-0.4, 4.9)	4.1	2,821	1,624
Currently enrolled in training (%) ^a	13.6	12.5	1.1	9.1	1.2	(-0.9, 3.2)	3.1	2,821	1,624
Confidence in career knowledge (range is 1 to 4) ^a	3.40	3.36	0.04**	1.13	0.02	(0.01, 0.07)	0.05	3,026	1,738
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	4,538	4,548	-11	-0.2	112	(-194, 173)	278	3,974	2,350
Employment in 12th or 13th quarter (%) ^b	79.7	80.0	-0.3	-0.4	1.0	(-2.0, 1.3)	2.5	3,974	2,350
Current or most recent job is in healthcare (%) ^a	54.2	41.2	13.0***	31.6	1.6	(10.4, 15.6)	3.9	2,820	1,624
Current or most recent job offers health insurance (%) ^a	56.7	55.2	1.5	2.8	1.6	(-1.1, 4.2)	4.0	2,820	1,624
Training completion and earnings growth (%) ^c	41.1	32.5	8.6***	26.5	1.7	(5.7, 11.5)	4.3	2,820	1,624
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	57.1	57.7	-0.5	-0.9	1.4	(-2.8, 1.8)	3.5	2,818	1,628
Individual receipt of TANF (%) ^a	5.2	6.9	-1.7**	-24.2	0.7	(-2.9, -0.5)	1.8	2,818	1,628
Individual receipt of SNAP (%) ^a	42.8	44.6	-1.8	-4.1	1.2	(-3.9, 0.2)	3.1	2,818	1,628
Individual receipt of Medicaid (%) ^a	43.9	43.1	0.8	1.9	1.2	(-1.2, 2.9)	3.1	2,818	1,628
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	27.4	31.4	-4.1***	-12.9	1.5	(-6.5, -1.6)	3.8	2,818	1,628

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

**Exhibit F.19c: Impacts by TANF or SNAP/WIC Receipt at Program Entry (Did not receive TANF, SNAP, or WIC):
Supplementary Materials**

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	77.8	69.2	8.6***	12.4	1.5	(6.2, 11.0)	3.6	2,532	1,283
Obtained certificate, license, or credential (%) ^a	58.0	47.1	10.9***	23.2	2.0	(7.7, 14.2)	4.9	2,532	1,283
Completed diploma or certificate for regular college classes (%) ^a	18.2	12.3	5.9***	47.9	1.2	(3.9, 7.9)	3.1	2,532	1,283
Completed vocational training certificate (%) ^a	20.9	16.8	4.1***	24.2	1.2	(2.1, 6.0)	3.0	2,532	1,283
Completed college degree (%) ^a	30.5	31.2	-0.7	-2.2	1.6	(-3.3, 1.9)	3.9	2,532	1,283
Months of full-time equivalent enrollment ^a	8.3	7.8	0.5	7.1	0.3	(-0.0, 1.1)	0.8	2,532	1,283
Earned ≥1 year college certificate or degree (%) ^a	34.4	33.4	0.9	2.8	1.6	(-1.7, 3.6)	4.0	2,532	1,283
Currently enrolled in training (%) ^a	13.0	14.8	-1.7	-11.6	1.1	(-3.5, 0.1)	2.8	2,532	1,283
Confidence in career knowledge (range is 1 to 4) ^a	3.41	3.39	0.02	0.50	0.02	(-0.02, 0.05)	0.05	2,707	1,384
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	5,980	5,830	150	2.6	119	(-45, 346)	296	3,667	2,055
Employment in 12th or 13th quarter (%) ^b	85.3	83.3	2.0*	2.4	1.1	(0.2, 3.7)	2.7	3,667	2,055
Current or most recent job is in healthcare (%) ^a	58.5	48.6	9.9***	20.3	1.8	(6.9, 12.8)	4.4	2,533	1,283
Current or most recent job offers health insurance (%) ^a	62.0	58.9	3.1*	5.3	1.9	(0.1, 6.2)	4.6	2,533	1,283
Training completion and earnings growth (%) ^c	46.5	41.1	5.4***	13.3	1.8	(2.5, 8.4)	4.5	2,533	1,283
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	26.4	24.5	1.9	7.7	1.5	(-0.6, 4.4)	3.8	2,535	1,281
Individual receipt of TANF (%) ^a	2.0	2.1	-0.1	-4.7	0.4	(-0.8, 0.6)	1.1	2,535	1,281
Individual receipt of SNAP (%) ^a	13.4	12.3	1.1	8.6	1.0	(-0.5, 2.6)	2.4	2,535	1,281
Individual receipt of Medicaid (%) ^a	21.4	20.3	1.1	5.4	1.4	(-1.3, 3.5)	3.6	2,535	1,281
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	16.9	18.4	-1.6	-8.4	1.4	(-3.8, 0.7)	3.4	2,535	1,281

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit F.20: Difference in Impacts by TANF or SNAP/WIC Receipt at Program Entry

Outcome	Subgroup A	Subgroup B	Difference (A minus B)	Standard Error	90% Confidence Interval
Educational Progress Outcomes					
Training completion (%) ^a	Received TANF	No TANF, Yes WIC/SNAP	-2.7	3.6	(-8.6, 3.3)
	Received TANF	No TANF, No WIC/SNAP	4.4	3.6	(-1.4, 10.3)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	7.1***	2.1	(3.6, 10.6)
Obtained certificate, license, or credential (%) ^a	Received TANF	No TANF, Yes WIC/SNAP	-1.4	3.9	(-7.9, 5.0)
	Received TANF	No TANF, No WIC/SNAP	1.8	4.1	(-5.0, 8.5)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	3.2	2.6	(-1.0, 7.4)
Completed diploma or certificate for regular college classes (%) ^a	Received TANF	No TANF, Yes WIC/SNAP	-2.6	2.5	(-6.7, 1.5)
	Received TANF	No TANF, No WIC/SNAP	-1.2	2.8	(-5.7, 3.4)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	1.4	1.4	(-0.9, 3.7)
Completed vocational training certificate (%) ^a	Received TANF	No TANF, Yes WIC/SNAP	-1.1	2.9	(-5.8, 3.6)
	Received TANF	No TANF, No WIC/SNAP	5.5**	2.8	(0.9, 10.1)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	6.6***	1.7	(3.9, 9.3)
Completed college degree (%) ^a	Received TANF	No TANF, Yes WIC/SNAP	-1.5	3.0	(-6.5, 3.4)
	Received TANF	No TANF, No WIC/SNAP	-0.3	2.9	(-5.0, 4.4)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	1.3	2.0	(-2.1, 4.6)
Months of full-time equivalent enrollment ^a	Received TANF	No TANF, Yes WIC/SNAP	-0.2	0.6	(-1.2, 0.8)
	Received TANF	No TANF, No WIC/SNAP	0.2	0.6	(-0.8, 1.2)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	0.4	0.5	(-0.4, 1.1)
Earned ≥1 year college certificate or degree (%) ^a	Received TANF	No TANF, Yes WIC/SNAP	-2.9	3.2	(-8.1, 2.3)
	Received TANF	No TANF, No WIC/SNAP	-1.6	2.9	(-6.4, 3.2)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	1.3	2.1	(-2.1, 4.8)
Currently enrolled in training (%) ^a	Received TANF	No TANF, Yes WIC/SNAP	-2.2	2.3	(-5.9, 1.5)
	Received TANF	No TANF, No WIC/SNAP	0.6	2.3	(-3.1, 4.4)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	2.9*	1.6	(0.2, 5.5)
Confidence in career knowledge (range is 1 to 4) ^a	Received TANF	No TANF, Yes WIC/SNAP	-0.01	0.04	(-0.07, 0.06)
	Received TANF	No TANF, No WIC/SNAP	0.01	0.04	(-0.05, 0.08)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	0.02	0.03	(-0.02, 0.07)
Labor Market Outcomes					
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	Received TANF	No TANF, Yes WIC/SNAP	-102	233	(-485, 280)
	Received TANF	No TANF, No WIC/SNAP	-264	238	(-654, 127)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	-161	161	(-425, 103)
Employment in 12th or 13th quarter (%) ^b	Received TANF	No TANF, Yes WIC/SNAP	2.7	2.2	(-0.9, 6.2)
	Received TANF	No TANF, No WIC/SNAP	0.4	2.2	(-3.3, 4.0)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	-2.3	1.4	(-4.7, 0.0)
Current or most recent job is in healthcare (%) ^a	Received TANF	No TANF, Yes WIC/SNAP	-1.6	3.4	(-7.2, 3.9)
	Received TANF	No TANF, No WIC/SNAP	1.5	3.7	(-4.5, 7.6)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	3.2	2.4	(-0.7, 7.1)

APPENDIX F: SUPPLEMENTAL MATERIALS FOR CHAPTER 6

Outcome	Subgroup A	Subgroup B	Difference (A minus B)	Standard Error	90% Confidence Interval
Current or most recent job offers health insurance (%) ^a	Received TANF	No TANF, Yes WIC/SNAP	-0.2	3.2	(-5.4, 5.1)
	Received TANF	No TANF, No WIC/SNAP	-1.7	3.1	(-6.8, 3.3)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	-1.6	2.4	(-5.4, 2.3)
Training completion and earnings growth (%) ^c	Received TANF	No TANF, Yes WIC/SNAP	-3.1	3.4	(-8.8, 2.5)
	Received TANF	No TANF, No WIC/SNAP	0.0	3.5	(-5.7, 5.8)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	3.2	2.3	(-0.6, 7.0)
General Well-Being Outcomes					
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	Received TANF	No TANF, Yes WIC/SNAP	6.0*	3.2	(0.7, 11.2)
	Received TANF	No TANF, No WIC/SNAP	3.6	3.3	(-1.9, 9.0)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	-2.4	2.2	(-6.0, 1.2)
Personally received TANF in the prior month (%) ^a	Received TANF	No TANF, Yes WIC/SNAP	1.5	2.2	(-2.1, 5.2)
	Received TANF	No TANF, No WIC/SNAP	-0.1	2.1	(-3.5, 3.4)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	-1.6*	0.9	(-3.1, -0.1)
Personally received SNAP in the prior month (%) ^a	Received TANF	No TANF, Yes WIC/SNAP	5.4*	3.1	(0.2, 10.5)
	Received TANF	No TANF, No WIC/SNAP	2.5	3.0	(-2.5, 7.4)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	-2.9*	1.7	(-5.7, -0.1)
Personally received Medicaid in the prior month (%) ^a	Received TANF	No TANF, Yes WIC/SNAP	7.8***	3.0	(2.9, 12.7)
	Received TANF	No TANF, No WIC/SNAP	7.5**	3.2	(2.3, 12.8)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	-0.3	1.8	(-3.3, 2.7)
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	Received TANF	No TANF, Yes WIC/SNAP	-1.2	3.1	(-6.2, 3.8)
	Received TANF	No TANF, No WIC/SNAP	-3.7	3.0	(-8.6, 1.2)
	No TANF, Yes WIC/SNAP	No TANF, No WIC/SNAP	-2.5	2.1	(-5.9, 0.9)

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

F.4 Descriptive Analysis of Training Type and Occupation Field by Subgroup

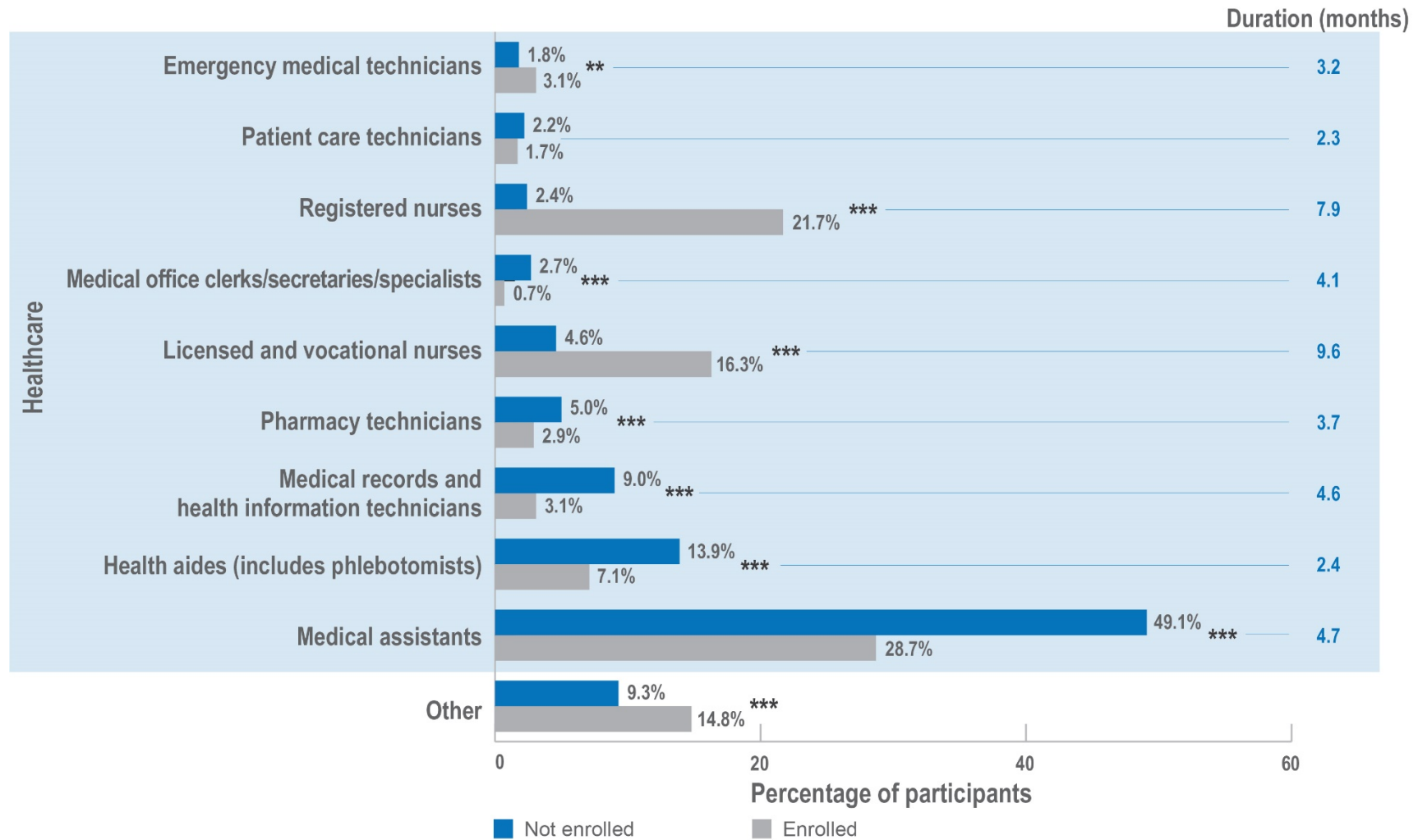
The subgroup results suggest that there are substantial differences in educational progress and labor market outcomes between subgroups, both in terms of the *levels* of outcomes as well as HPOG's *impact* on these outcomes. In an effort to better understand these results, we explored reported training and employment occupations, separately for selected subgroups.²³ These exploratory analyses were not pre-specified in the *Three-Year Analysis Plan*.

The exhibits in this section show training and employment occupations by two subgroups: education (high school or less versus some post-secondary or more) and baseline enrollment (not enrolled in training at baseline versus enrolled in training at baseline). We found that those with less education and those not enrolled at baseline were more likely to participate in shorter trainings, such as nursing assistant. Those with more education and those already enrolled at baseline were more likely to participate in longer trainings, such as registered nursing or licensed and vocational nursing.

It seems plausible that additional education would provide the prerequisites needed for higher paying jobs. This theory is consistent with our related findings on occupations: those with less education and not enrolled in training at baseline are more likely to be working in lower paying jobs like health aids, while those with more education and already enrolled in training are more likely to be working in higher paying jobs like registered nurses or licensed and vocational nurses.

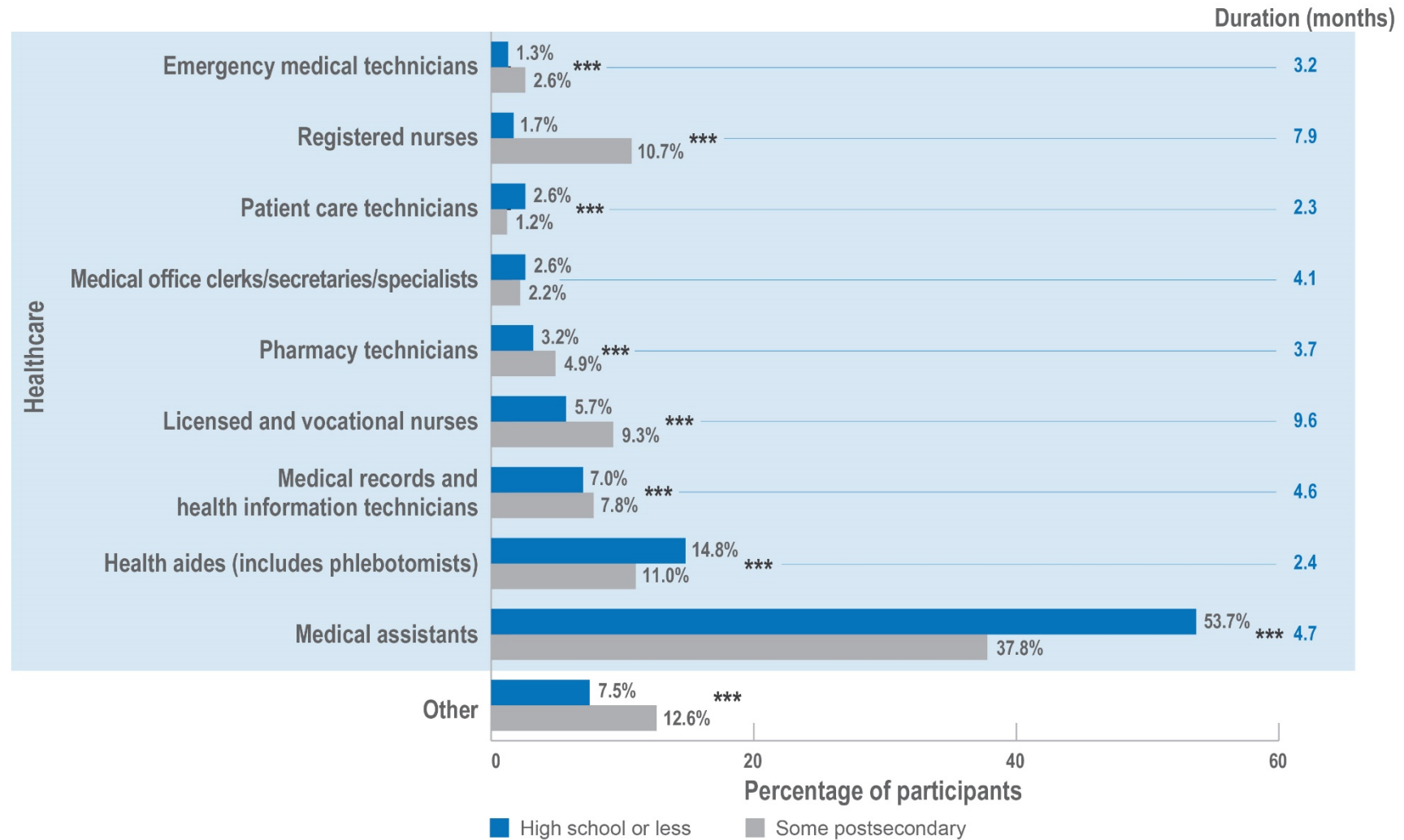
²³ Occupations are based on the 2010 Standard Occupational Classification (SOC) system. The training occupation is based on the HPOG Performance Reporting System (PRS). The employment occupation is based on survey-reported occupation, job title, and job duties, which were then coded into SOC codes by the U.S. Census Bureau National Processing Center.

Exhibit F.20: First HPOG Training by Type and Average Duration (Enrollment Subgroups)



Notes: Statistical significance levels for two-sided tests of differences between subgroups are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Frequencies on bars reflect the proportion of the sample that enrolled in each type of training. Numbers on the right side of the figure reflect average duration in months for each training. Training occupations with fewer than 100 individuals are grouped into the "Other" category.
 Sources: HPOG PRS.

Exhibit F.21: First HPOG Training by Type and Average Duration (Education Subgroups)

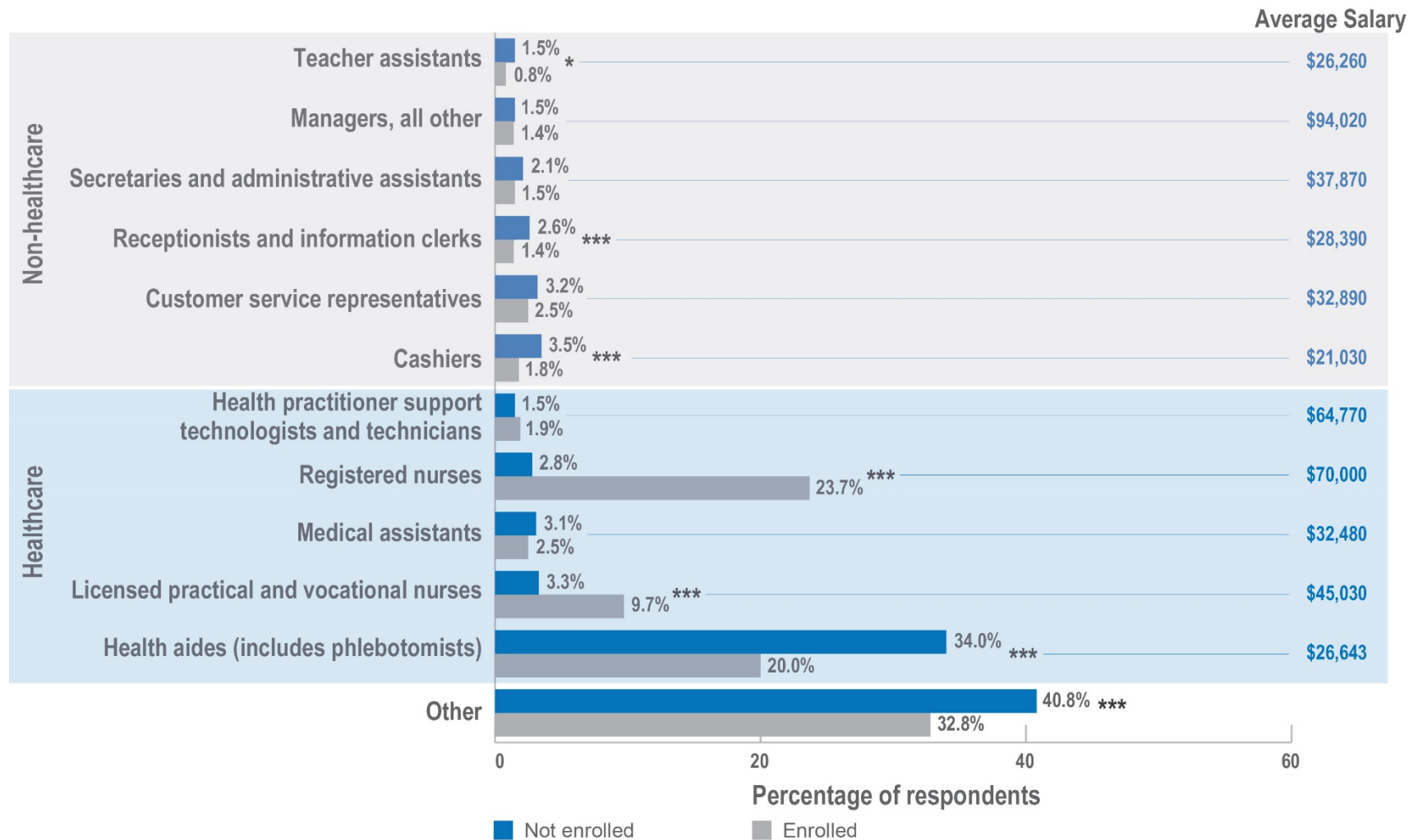


Notes: Statistical significance levels for two-sided tests of differences between subgroups are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Frequencies on bars reflect the proportion of the sample that enrolled in each type of training. Numbers on the right side of the figure reflect average duration in months for each training. Training occupations with fewer than 100 individuals are grouped into the "Other" category.

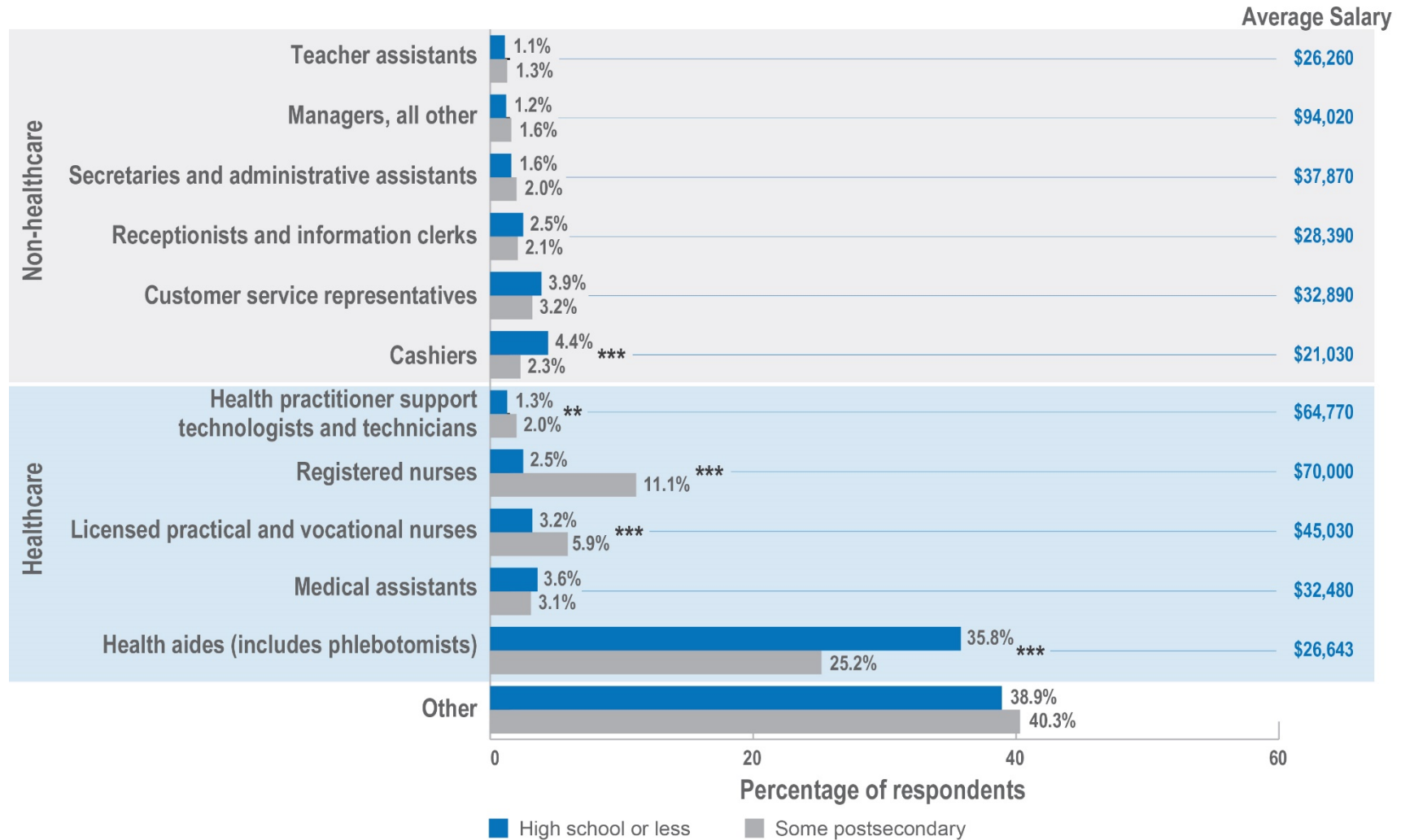
Sources: HPOG PRS.

Exhibit F.22: Occupations by Type and Average Salary (Enrollment Subgroups)



Notes: Statistical significance levels for two-sided tests of differences between subgroups are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Frequencies on bars reflect the proportion of the sample that were employed in each type of job. Numbers on the right side of the figure reflect average salary for each type of job. Job occupations with fewer than 100 individuals are grouped into the "Other" category.
 Sources: Three-year survey.

Exhibit F.23: Occupations by Type and Average Salary (Education Subgroups)



Notes: Statistical significance levels for two-sided tests of differences between subgroups are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Frequencies on bars reflect the proportion of the sample that were employed in each type of job. Numbers on the right side of the figure reflect average salary for each type of job. Job occupations with fewer than 100 individuals are grouped into the "Other" category. Sources: Three-year survey.

Appendix G. Supplemental Materials for Chapter 7

This appendix presents more detailed versions of the exhibits in Chapter 7 (“Impacts on Child Development and Well-Being”), as follows:

- Section G.1 presents supplementary materials for impacts on the parent subgroup.
- Section G.2 presents supplementary materials for impacts on child-development and well-being outcomes.

G.1 Impacts of HPOG on Parents: Supplemental Materials

Exhibit G.1a: Impacts by Parental Status (Parent): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	77.2	61.9	15.4***	24.8	1.6	(12.7, 18.0)	4.0	2,080	951
Obtained certificate, license, or credential (%) ^a	57.1	40.8	16.3***	40.0	1.6	(13.6, 19.0)	4.1	2,080	951
Completed diploma or certificate for regular college classes (%) ^a	21.8	13.7	8.1***	59.2	1.7	(5.3, 10.9)	4.3	2,080	951
Completed vocational training certificate (%) ^a	26.1	16.6	9.5***	57.4	1.2	(7.6, 11.5)	2.9	2,080	951
Completed college degree (%) ^a	26.3	24.8	1.5	6.0	1.7	(-1.2, 4.2)	4.1	2,080	951
Months of full-time equivalent enrollment ^a	8.0	6.7	1.3***	19.4	0.4	(0.7, 1.9)	0.9	2,080	951
Earned ≥1 year college certificate or degree (%) ^a	31.0	27.9	3.1*	11.0	1.7	(0.3, 5.9)	4.2	2,080	951
Currently enrolled in training (%) ^a	12.1	12.5	-0.4	-3.0	1.2	(-2.4, 1.6)	3.0	2,080	951
Confidence in career knowledge (range is 1 to 4) ^a	3.42	3.38	0.03	0.93	0.02	(-0.00, 0.07)	0.05	2,248	1,019
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	5,163	5,157	6	0.1	172	(-276, 287)	427	2,248	1,019
Employment in 12th or 13th quarter (%) ^b	85.4	84.1	1.2	1.4	1.5	(-1.2, 3.6)	3.6	2,248	1,019
Current or most recent job is in healthcare (%) ^a	61.5	46.8	14.8***	31.6	1.7	(12.0, 17.6)	4.3	3,896	2,189
Current or most recent job offers health insurance (%) ^a	63.9	60.6	3.3*	5.4	2.0	(0.1, 6.5)	4.9	3,896	2,189
Training completion and earnings growth (%) ^c	44.9	36.3	8.6***	23.8	2.2	(5.1, 12.2)	5.4	3,896	2,189
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	59.4	58.0	1.4	2.3	1.6	(-1.3, 4.0)	4.0	2,248	1,019
Individual receipt of TANF (%) ^a	7.9	8.8	-0.9	-10.5	1.0	(-2.5, 0.7)	2.4	2,248	1,019
Individual receipt of SNAP (%) ^a	44.4	44.4	-0.0	-0.1	1.6	(-2.7, 2.7)	4.1	2,248	1,019
Individual receipt of Medicaid (%) ^a	49.2	46.6	2.6	5.5	1.6	(-0.1, 5.2)	4.0	2,248	1,019
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	26.3	27.8	-1.5	-5.3	1.7	(-4.3, 1.4)	4.3	2,248	1,019

Notes: Sample excludes participants at dual HPOG/PACE sites. Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit G.1b: Impacts by Parental Status (Not Parent): Supplementary Materials

Outcome	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Educational Progress Outcomes									
Training completion (%) ^a	74.7	63.5	11.2***	17.6	1.6	(8.5, 13.9)	4.1	2,814	1,287
Obtained certificate, license, or credential (%) ^a	51.2	40.5	10.7***	26.5	2.0	(7.5, 14.0)	4.9	2,814	1,287
Completed diploma or certificate for regular college classes (%) ^a	19.2	12.7	6.4***	50.7	1.2	(4.4, 8.4)	3.0	2,814	1,287
Completed vocational training certificate (%) ^a	19.4	14.2	5.2***	36.5	1.3	(3.1, 7.3)	3.2	2,814	1,287
Completed college degree (%) ^a	30.9	31.4	-0.6	-1.8	1.5	(-3.0, 1.9)	3.7	2,814	1,287
Months of full-time equivalent enrollment ^a	7.8	7.5	0.3	4.5	0.3	(-0.2, 0.8)	0.8	2,814	1,287
Earned ≥1 year college certificate or degree (%) ^a	34.6	33.8	0.8	2.5	1.6	(-1.9, 3.5)	4.1	2,814	1,287
Currently enrolled in training (%) ^a	13.9	13.4	0.5	3.4	1.3	(-1.6, 2.5)	3.1	2,814	1,287
Confidence in career knowledge (range is 1 to 4) ^a	3.39	3.37	0.02	0.62	0.02	(-0.01, 0.05)	0.05	3,016	1,406
Labor Market Outcomes									
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	5,388	5,192	195	3.8	132	(-21, 412)	329	3,016	1,406
Employment in 12th or 13th quarter (%) ^b	83.8	81.7	2.1*	2.6	1.1	(0.3, 4.0)	2.9	3,016	1,406
Current or most recent job is in healthcare (%) ^a	54.6	44.4	10.2***	23.1	1.7	(7.4, 13.1)	4.3	2,131	1,116
Current or most recent job offers health insurance (%) ^a	59.4	58.2	1.2	2.0	1.7	(-1.6, 3.9)	4.2	2,131	1,116
Training completion and earnings growth (%) ^c	43.2	37.5	5.8***	15.5	1.7	(2.9, 8.6)	4.3	2,131	1,116
General Well-Being Outcomes									
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	39.2	38.4	0.8	2.1	1.4	(-1.4, 3.1)	3.4	3,016	1,406
Individual receipt of TANF (%) ^a	4.1	4.7	-0.6	-13.4	0.6	(-1.6, 0.3)	1.4	3,016	1,406
Individual receipt of SNAP (%) ^a	25.4	25.6	-0.2	-0.9	1.1	(-2.0, 1.5)	2.7	3,016	1,406
Individual receipt of Medicaid (%) ^a	32.4	31.8	0.7	2.1	1.2	(-1.4, 2.7)	3.1	3,016	1,406
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	22.8	26.6	-3.9***	-14.5	1.4	(-6.2, -1.5)	3.6	3,016	1,406

Notes: Sample excludes participants at dual HPOG/PACE programs. Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent. Subgroup-specific sample sizes fluctuate by analysis due to data source and because subgroup membership is imputed where baseline characteristics are missing. We conduct a separate imputation for each table of outcomes as they appear in Chapters 4, 5, and 6 of the main body.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

Exhibit G.2: Difference in Impacts by Parental Status

Outcome	Subgroup A	Subgroup B	Difference (A minus B)	Standard Error	90% Confidence Interval
Educational Progress Outcomes					
Training completion (%) ^a	Parent	Not Parent	4.2**	2.1	(0.7, 7.6)
Obtained certificate, license, or credential (%) ^a	Parent	Not Parent	5.6**	2.4	(1.6, 9.5)
Completed diploma or certificate for regular college classes (%) ^a	Parent	Not Parent	1.7	1.9	(-1.4, 4.7)
Completed vocational training certificate (%) ^a	Parent	Not Parent	4.3**	1.7	(1.5, 7.1)
Completed college degree (%) ^a	Parent	Not Parent	2.1	2.0	(-1.2, 5.3)
Months of full-time equivalent enrollment ^a	Parent	Not Parent	1.0**	0.5	(0.2, 1.7)
Earned ≥1 year college certificate or degree (%) ^a	Parent	Not Parent	2.2	2.1	(-1.2, 5.7)
Currently enrolled in training (%) ^a	Parent	Not Parent	-0.8	1.7	(-3.5, 1.9)
Confidence in career knowledge (range is 1 to 4) ^a	Parent	Not Parent	0.01	0.03	(-0.04, 0.06)
Educational Progress Outcomes					
Average quarterly earnings during the 12th and 13th quarters (\$) ^b	Parent	Not Parent	-190	211	(-536, 156)
Employment in 12th or 13th quarter (%) ^b	Parent	Not Parent	-0.9	1.8	(-3.9, 2.1)
Current or most recent job is in healthcare (%) ^a	Parent	Not Parent	4.5**	2.3	(0.7, 8.4)
Current or most recent job offers health insurance (%) ^a	Parent	Not Parent	2.1	2.5	(-2.1, 6.3)
Training completion and earnings growth (%) ^c	Parent	Not Parent	2.9	2.6	(-1.4, 7.1)
Educational Progress Outcomes					
Individual receipt of TANF, SNAP, or Medicaid in prior month (%) ^a	Parent	Not Parent	0.5	2.2	(-3.0, 4.1)
Personally received TANF in the prior month (%) ^a	Parent	Not Parent	-0.3	1.1	(-2.1, 1.6)
Personally received SNAP in the prior month (%) ^a	Parent	Not Parent	0.2	2.1	(-3.3, 3.7)
Personally received Medicaid in the prior month (%) ^a	Parent	Not Parent	1.9	1.9	(-1.3, 5.1)
Participant reports generally not having enough money to make ends meet at the end of the month (%) ^a	Parent	Not Parent	2.4	2.3	(-1.3, 6.1)

Notes: Statistical significance levels for two-sided tests are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sources:

^a Three-year survey.

^b National Directory of New Hires.

^c National Directory of New Hires and three-year survey.

G.2 Impacts of HPOG on Child Development and Well-Being: Supplementary Materials

Exhibit G.3: Impacts on Child Development and Well-Being: Supplementary Materials

Outcome	Level of Evidence	Treatment Group Mean	Control Group Mean	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size: Treatment	Sample Size: Control
Parent believes child will complete some school beyond high school (%)	Exploratory	94.1	94.2	-0.1	-0.1	0.9	(-1.5, 1.3)	2.2	2,269	1,038
Child believes s/he will complete some school beyond high school (%)	Exploratory	94.1	94.1	0.1	0.1	1.1	(-1.8, 1.9)	2.8	2,269	1,038
Child believes s/he will complete some school beyond high school (excluding nonresponse) (%)	Exploratory	94.4	94.4	0.0	0.0	0.8	(-1.3, 1.4)	2.0	1,813	968
Child development of socio-emotional skills (Pre-K-5) (range is -2 to 2)	Exploratory	0.45	0.43	0.02	4.1	0.02	(-0.02, 0.06)	0.06	1,530	692
Child development of academic skills (Pre-K) (range is -2 to 2)	Exploratory	0.43	0.48	-0.05	-11.0	0.05	(-0.13, 0.03)	0.12	521	229
Child development of academic skills (K-5) (range is -2 to 2)	Exploratory	0.92	0.90	0.02	1.7	0.05	(-0.07, 0.10)	0.13	1,009	463
Parental perception of student achievement (6-12) (%)	Exploratory	72.1	76.2	-4.1	-5.4	2.9	(-8.9, 0.6)	7.2	718	327
School-related risk (K-12) (range is 0-3)	Exploratory	0.66	0.66	0.00	0.5	0.04	(-0.06, 0.07)	0.09	1,727	790

Notes: Confirmatory and secondary findings use a one-sided hypothesis test, and exploratory findings use a two-sided hypothesis test. Statistical significance levels for one-sided tests are indicated with hashtags, as follows: ### = 1 percent; ## = 5 percent; # = 10 percent. Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sources: Three-year survey.

Exhibit G.4: Impacts on School Risk: Supplementary Materials

Outcome	Level of Evidence	Treatment	Control	Impact	Relative Impact	Standard Error	90% Confidence Interval	Minimum Detectable Effect	Sample Size:	
		Group Mean	Group Mean						Treatment	Control
Academic Risk (%)	Exploratory	24.6	24.8	-0.2	-0.8	1.9	(-3.3, 2.9)	4.7	1,727	790
Repeat Grade (%)	Exploratory	5.8	6.8	-0.9	-13.9	1.1	(-2.7, 0.9)	2.7	1,727	790
School Work - Teacher Contact (%)	Exploratory	21.4	19.7	1.8	9.0	1.8	(-1.2, 4.8)	4.5	1,727	790
Attendance Risk (%)	Exploratory	17.1	17.3	-0.2	-1.0	1.7	(-3.0, 2.6)	4.2	1,727	790
Absent more than two days last month (%)	Exploratory	11.4	11.4	0.0	0.1	1.6	(-2.5, 2.6)	3.9	1,727	790
Late more than two days last month (%)	Exploratory	10.0	9.8	0.2	2.2	1.2	(-1.7, 2.1)	2.9	1,727	790
Behavioral Risk (%)	Exploratory	24.6	24.1	0.5	2.2	2.0	(-2.7, 3.7)	4.9	1,727	790
Behavior - Teacher Contact (%)	Exploratory	23.2	22.9	0.3	1.3	1.9	(-2.8, 3.4)	4.8	1,727	790
Suspend/Expel in current school year (%)	Exploratory	3.7	3.5	0.2	5.8	0.9	(-1.3, 1.7)	2.3	1,727	790

Notes: Confirmatory and secondary findings use a one-sided hypothesis test, and exploratory findings use a two-sided hypothesis test. Statistical significance levels for one-sided tests are indicated with hashtags, as follows: ### = 1 percent; ## = 5 percent; # = 10 percent. Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
Sources: Three-year survey.

Appendix H. Supplemental Materials for Chapter 8

This appendix describes our technical approach to the descriptive analysis of training types, occupations, and patterns of training and employment in Chapter 8.

Section 8.2 contains a descriptive analysis of training programs. The sample for that analysis consists of the 4,124 treatment group members with reported training in both the HPOG PRS and the three-year survey. The training occupation is based on the first occupational training program reported in the PRS, and is reported as the 6-digit code from the Standard Occupational Classification (SOC) system. Trainings for registered nurses (SOC 29-1140) or licensed practical and vocational nurses (SOC 29-2060) were considered long-term trainings; all other trainings were considered short-term. PRS coverage ended in September 2015; for trainings that ended by that date, training duration is based on the PRS; for trainings that extended beyond the range of PRS coverage, training duration is from the follow-up survey. Training duration is calculated as the average among those who completed their training.

Section 8.2 also contains an analysis of employment occupation. The sample for that analysis consists of the 3,867 treatment group members with reported training in both the HPOG PRS and the three-year survey, and who reported any employment in the three-year survey. Employment occupation is the current or most recent occupation reported in the three-year survey. The SOC code was determined from responses to open-ended questions about job title and job duties in the three-year survey. These responses were coded by the U.S. Census Bureau National Processing Center into 6-digit SOC codes.

Section 8.3 contains a descriptive analysis of patterns of training and employment for the 4,124 treatment group members with reported training in both the HPOG PRS and the three-year survey. Exhibit H.1 lists the patterns that we classify into four types in Exhibit 8.6.

Exhibit H.1: Complete List of Patterns Included in Three Transition Types

Returning to Training	Training to Employment	Always in Training	Other
ETENTN	ETE	T	E
ETBEBE	ETENE	TB	ETN
ETNEBT	ETBE	TBT	EB
EBETNE	ETBENE	TBTB	EBE
EBEB	ETNE	TBTBT	EBEB
EBEBE	ETNENE	B	EBEBE
EBEBT	ETNENEN	BT	EBEN
EBEBEN	EB	BTB	EBENT
EBEBENE	EBE	BTBT	EBENBTB
EBEBT	EBEB		EBT
EBEBTB	EBEN		EBTB
EBEBTBE	EBENE		EBTN
EBEBTBTB	EBENEN		EBTNTN
EBEBTNE	EBENENE		EBN
EBEBNENE	EBENENEN		EN
EBEBNENENENEN	EBENENENEN		ENE
EBENEB	EBT		ENEB
EBENEBTNEN	EBTE		ENEN
EBENEBNEN	EBTEN		ENENE
EBENTN	EBTENE		ENENEB
EBENTNE	EBTENEN		ENENEN
EBTEB	EBTB		ENT
EBTBE	EBTBE		ENTN
EBTBT	EBTBEN		ENTNTN
EBTNETNE	EBTBENE		ENB
EBTNEBE	EBTBENEN		TN
EBTNENTB	EBTBN		TNT
EBNEBE	EBTNE		TNTN
EBNENBEN	EBTNEN		TNTNT
EBNTBTNE	EBTNENE		BE
ENTEBTN	EBTNENENE		BEB
ENTBEB	EBTNENENEN		BEBE
ENTBT	EBTNENENENEN		BEBT
ENTBTN	EBTNBE		BEN
ENTBTNE	EBNE		BENTBT
ENTNEBT	EBNEN		BENTN
TEB	EBNENEN		BTN
TEBE	ENEBE		BN
TEBEN	ENEBEN		N
TEBENENEN	ENEBTB		NE

APPENDIX H: SUPPLEMENTAL MATERIALS FOR CHAPTER 8

Returning to Training	Training to Employment	Always in Training	Other
TENEBENE	ENEBTBE		NET
TENT	ENENTBE		NETN
TENTB	ENTE		NEB
TBET	ENTEN		NEBE
TBEB	ENTB		NEBET
TBEBE	ENTBE		NEBEB
TBEBEBE	ENTBEN		NEBEN
TBEBEN	ENTBENE		NEBT
TBEBENE	ENTBENEN		NEBTB
TBEBT	ENTNE		NEBTBT
TBEBTE	ENTNEN		NEBTN
TBEBTB	ENBE		NEN
TBEBTNE	TE		NENE
TBEBNE	TEN		NENEB
TBENEB	TENE		NENEBE
TBENT	TENEN		NENE BEN
TBENTB	TENENE		NENE BN
TBENTBT	TENENEN		NENEN
TBTE	TBE		NENENT
TBTEN	TBEN		NENT
TBTBE	TBENE		NENTN
TBTBEN	TBENEN		NENTNT
TBTBTE	TBENENE		NENB
TBTN	TBENENEN		NT
TBTNE	TBNE		NTN
TBTNEN	TBNEN		NTNT
TNEB	TBNENE		NTNTN
TNEBE	TBNBE		NB
TNEBEBE	TNE		NBE
TNEBENE	TNEN		NBEBE
TNEBT	TNENE		NBEN
TNEBTBTN	TNENEN		NBTN
TNEBTBNE	TNENENE		
TNEBTNEN	TNENENEN		
TNEBNE	TNENENENE		
TNENE BE	TNTE		
TNENENT	TNTB		
TNENENTN	TNTBE		
TNENT	TNTBEN		
TNENTENE	TNTBENE		
TNENTN	TNTNE		

APPENDIX H: SUPPLEMENTAL MATERIALS FOR CHAPTER 8

Returning to Training	Training to Employment	Always in Training	Other
TNTBT	TNTNEN		
TNTNENT	TNTNENE		
BET	TNTNTBEN		
BETBE	TNBE		
BETBTB	TNBEN		
BETNTN	TNBNENE		
BEB	BE		
BEBE	BETBE		
BEBT	BEBE		
BEBEN	BEBTNE		
BEBTB	BEN		
BENEB	BENE		
BENT	BENEN		
BENTN	BENENE		
BENTNE	BENENEN		
BENTNEN	BENENENE		
BENB	BTE		
BENBE	BTEN		
BTEB	BTENE		
BTEBEN	BTENEN		
BTENTNE	BTBE		
BTBE	BTBEN		
BTBEB	BTBENE		
BTBEN	BTBNENE		
BTBENEB	BTNE		
BTBTBE	BTNEN		
BTBTNE	BTNENE		
BTBTNT	BTNENEN		
BTNEB	BTNTENE		
BTNEBTB	BTNTBE		
BTNTBTNE	BTNTNE		
BNEB	BTNTNENE		
BNEBE	BTNBE		
BNENT	BNE		
NEBEB	BNEN		
NEBEBE	BNENE		
NEBEBTB	BNTB		
NEBENTNENEN	BNTBE		
NENTBT	BNTNE		
NTET	NETENENE		
NTETB	NETBE		

APPENDIX H: SUPPLEMENTAL MATERIALS FOR CHAPTER 8

Returning to Training	Training to Employment	Always in Training	Other
NTETNE	NETBENE		
NTEB	NETNEN		
NTEBE	NEB		
NTEBEN	NEBE		
NTEBT	NEBEN		
NTEBTE	NEBENE		
NTEBTEN	NEBENEN		
NTEBTBE	NEBENENE		
NTEBTNE	NEBTE		
NTEBTNENE	NEBTENE		
NTENTB	NEBTBE		
NTENTBENEN	NEBTNEN		
NTBETEN	NEBTNTNE		
NTBETENE	NEBTNBENE		
NTBEB	NEBNE		
NTBEBE	NEBNENEN		
NTBEBEN	NEBNENENE		
NTBEBTBE	NENEBE		
NTBENEB	NENEBEN		
NTBENEBT	NENTB		
NTBENT	NENTNE		
NTBENTB	NENTNEN		
NTBENTBE	NENTNENE		
NTBENTBT	NTE		
NTBENTNE	NTEN		
NTBT	NTENE		
NTBTE	NTENEN		
NTBTB	NTENENE		
NTBTBE	NTB		
NTBTBENE	NTBE		
NTBTN	NTBEN		
NTBTNEN	NTBENE		
NTBTNENENEN	NTBENEN		
NTNETBENE	NTBENENE		
NTNETN	NTBENENENE		
NTNETNE	NTBN		
NTNETNT	NTBNE		
NTNEB	NTBNENE		
NTNEBE	NTBNENENE		
NTNEBT	NTNE		
NTNEBTB	NTNEN		

APPENDIX H: SUPPLEMENTAL MATERIALS FOR CHAPTER 8

Returning to Training	Training to Employment	Always in Training	Other
NTNEBTNE	NTNENE		
NTNENEB	NTNENEN		
NTNENE BEN	NTNENENE		
NTNENE BNE	NTNENENEN		
NTNENT	NTNENENENEN		
NTNENTB	NTNTE		
NTNENTN	NTNTENEN		
NTNENTNE	NTNTB		
NTNENTNENE	NTNTBE		
NTNTBEB	NTNTBEN		
NTNTBTBENE	NTNTNE		
NTNTBTBT	NTNTNEN		
NBEBE	NTNTNENE		
NBEBEN	NTNTNTNE		
NBEBTE	NTNB		
NBEBTBE	NTNBE		
NBTBTB	NBE		
	NBEN		
	NBENE		
	NBENEN		
	NBTBE		
	NBTNE		
	NBNE		

Works Cited

- Barnow, Burt S., and David Greenberg. (forthcoming). Special Issue Editors' Essay. *Evaluation Review*.
- Bureau of Labor Statistics, U.S. Department of Labor. (2015). *Occupational Employment Statistics*. Accessed February 27, 2019. Available at: <https://www.bls.gov/oes/tables.htm>
- Harvill, Eleanor, Daniel Litwok, Shawn Moulton, Alyssa Rulf Fountain, and Laura R. Peck. (2018). *Technical Supplement to the Health Profession Opportunity Grants (HPOG) Impact Study Interim Report: Report Appendices*. OPRE Report #2018-16b. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. Available at: https://www.acf.hhs.gov/sites/default/files/opre/hpog_interim_appendices_final_5_15_18_508.pdf
- Hipple, Steven F., and Laurel A. Hammond. (2017). *Self-Employment in the United States*. Washington, DC: Bureau of Labor Statistics. Available at: <https://www.bls.gov/opub/mlr/2017/article/benchmarking-the-current-employment-statistics-national-estimates.htm>
- Judkins, David, Daniel Litwok, and Karen Gardiner. (forthcoming). Pima Community College's Pathways to Healthcare Program: Three-Year Impact Report. OPRE Report. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.
- Litwok, Daniel, Walton, Douglas, Peck, Laura R., and Eleanor Harvill. (2018). *Health Profession Opportunity Grants (HPOG) Impact Study's Three-Year Follow-Up Analysis Plan*. OPRE Report #2018-124. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. Available at: <https://www.acf.hhs.gov/opre/resource/health-profession-opportunity-grants-hpog-impact-studys-three-year-follow-up-analysis-plan>
- Manning, Christopher D., and John R. Stewart. (2017). "Benchmarking the Current Employment Statistics National Estimates." *Monthly Labor Review*. doi:10.21916/mlr.2017.25
- Martinson, Karen, Julie Williams, Karen Needels, Laura R. Peck, Shawn Moulton, Nora Paxton, Annalisa Mastri, Elizabeth Copson, Hiren Nisar, Allison Comfort, and Melanie Brown-Lyons. (2016). *The Green Jobs and Health Care Impact Evaluation: Findings from the Impact Study of Four Training Programs for Unemployed and Disadvantaged Workers*. Washington, DC: U.S. Department of Labor, Employment and Training Administration. Available at: https://wdr.doleta.gov/research/FullText_Documents/ETAOP-2017-07%20Findings%20from%20the%20Impact%20Study.pdf
- Peck, Laura R., Alan Werner, Eleanor Harvill, Daniel Litwok, Shawn Moulton, Alyssa Rulf Fountain, and Gretchen Locke. (2018). *Health Profession Opportunity Grants (HPOG 1.0) Impact Study Interim Report: Program Implementation and Short-Term Impacts*, OPRE Report 2018-16a. Washington, DC: Office of Planning, Research, and Evaluation,

Administration for Children and Families, U.S. Department of Health and Human Services. Available at: <https://www.acf.hhs.gov/opre/resource/health-profession-opportunity-grants-hpog-impact-study-design-report>

Werner, Alan, Robin Koralek, Ann Collins, Glen Schneider, Pamela Loprest, Shelli Rossman, and Lauren Eyster. (2014). *Design Report: National Implementation Evaluation of the Health Profession Opportunity Grants (HPOG) to Serve TANF Recipients and Other Low-Income Individuals*. OPRE Report #2014-02. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. Available at: https://www.acf.hhs.gov/sites/default/files/opre/final_nie_final_report_1_11_18_clean_v2_b508.pdf