The Impact of Regional Sectoral Training Partnerships: Findings from America's Promise

Final Report

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Final Report

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Other study publications

1. Creating and Expanding Regional Workforce Partnerships for Skilled H1-B Industries and Occupations: Implementation of America's Promise Job-Driven Training Grants

2. Sector Training Strategies During the COVID-19 Pandemic: Issue Brief: Lessons from the America's Promise Partnerships

3. Employer Perspectives on Regional Workforce Partnerships Issue Brief: Lessons from America's Promise

4. Employer Engagement Strategies in Regional Partnerships: Lessons from America's Promise

5. Experiences of America's Promise Participants During the "COVID-19 Recession": Examining Gender Differences in Labor Market and Training Program Outcomes

Study publications are available at: https://www.dol.gov/agencies/oasp/evaluation/currentstudies/America-Promise-Job-Driven-Grant-Program-Evaluation.

Acknowledgements

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Exhibits

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Executive Summary

Throughout the United States, businesses continue to struggle with a persistent skills gap, in which the qualifications of American workers do not align with workforce needs, as well as a labor shortage (Capranos and Magda 2023). In 2023 U.S. firms sponsored more than 120,000 nonimmigrant H-1B visas to hire foreign workers into skilled positions, selected from more than 470,000 eligible applicants (U.S. Citizenship and Immigration Services 2023), as a way to address the shortage of skilled workers in high-demand industries. To reclaim some of these jobs for the American workforce and strengthen the pipeline of skilled workers among regions' workforces, in 2016 the U.S. Department of Labor (DOL), Employment and Training Administration's Division of Strategic Investment, awarded more than $111 million to 23 grantees for the America's Promise Job-Driven Training Grants program (America's Promise). These four-year grants sought to create or expand regional partnerships comprising workforce agencies, institutes of higher education, economic development agencies, and employers, to (1) identify the needs of industry sectors that typically rely on the H-1B visa program to hire skilled foreign workers and (2) implement sector-based training strategies and career pathways to prepare a domestic workforce for middle- to high-skilled jobs[1] in those sectors (DOL 2016).

> **Overview of the evaluation**
>
> In May 2017, DOL's Chief Evaluation Office contracted with Mathematica and Social Policy Research Associates to conduct an evaluation of the America's Promise Job-Driven Training grants. The evaluation examines the implementation and impact of grants awarded to 23 organizations in 2016. These grants, funded by DOL's Employment and Training Administration, support the creation and expansion of regional workforce partnerships— including workforce development agencies, institutions of higher education, economic development agencies, employers, and community-based organizations—to prepare workers for careers in middle- to high-skilled industries and occupations.
>
> Beyond this report, the grantees' implementation experiences are further explored in the final implementation report (English et al. 2022a) and in a series of issue briefs examining how the partnerships responded to the COVID-19 pandemic, employer voices, employer engagement, and how participants experienced the COVID-19 pandemic by gender. ◢

The America's Promise grants represent a continuation of DOL's commitment to support sector-based strategies and regional partnerships that meet employers' needs and prepare American workers for middle- and high-skilled jobs. The America's Promise grant program encouraged regional partnerships to come together with a commitment—or a "promise"—to create a pipeline of trained workers to address regional labor market needs (DOL 2016). To that end, the grants sought to help prepare job seekers for locally in-demand and high-growth employment by connecting them with classroom training and work-based learning opportunities, in addition to supports such as case management, job placement services, and necessary wraparound supportive services. America's Promise funds were intended to provide participants with tuition-free education and training, including short-term or accelerated training, as well

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[1] DOL defines "middle skill" workers as "those with greater education than high school, but less than a bachelor's degree" (DOL 2016). Under the America's Promise grant, middle-skill jobs were selected in career pathways which could lead to high-skill jobs in H-1B industries. H-1B occupations are considered to be high-skilled jobs which require "the application of a body of highly specialized knowledge and the attainment of at least a bachelor's degree or its equivalent." (DOL 2023).

as longer-term intensive training. To achieve this goal, the grants required the creation of regional workforce partnerships that prioritized employers' voices in developing career pathways and associated education and training offerings (DOL 2016).

DOL's Chief Evaluation Office contracted with Mathematica and its partner, Social Policy Research Associates, to conduct an evaluation of the America's Promise grants. The America's Promise Evaluation seeks to fill some of the existing research gaps related to regional workforce partnerships and sector-based strategies through a rigorous mixed-method approach that evaluates the implementation, outcomes, and impacts of America's Promise strategies and partnerships. This report presents results from the America's Promise outcomes and impact analysis and draws on findings from the previously completed implementation study to provide context for the presented results (English et al. 2022a). Chapter 1 provides detailed information on the background for the evaluation and the guiding research questions for the outcomes and impact studies. Chapter 2 provides an overview of the key findings from the America's Promise implementation study, which presents important information for interpreting results from the outcomes and impact studies, as well as understanding their policy implications. (For the full set of implementation findings, see English et al. 2022a.)

Chapter 3 presents the results of the outcomes study in which we describe the program and labor market experiences of America's Promise participants who enrolled at any time between program years 2017 and 2019. We report the percentage of America's Promise participants completing a training program and the percentage receiving a credential through the America's Promise program. We also describe the earnings and employment trajectories of America's Promise participants before and after program enrollment. **We uncover the following key findings from the outcomes study:**

- Most participants received at least one credential through the America's Promise program (75 percent) and completed their training program (80 percent).

- The employment rate across all participants declined leading up to program enrollment but increased immediately after enrollment.

- Average quarterly earnings across all participants declined leading up to program enrollment but increased immediately after enrollment.

- Employment and earnings trajectories after enrollment differed by program year of entry, likely associated with the COVID-19 pandemic.

We detail the methodology used to estimate impacts in Chapter 4 and present the results of the impact study across all partnerships in Chapter 5. In Chapter 5, we provide estimates of the impact of participation in an America's Promise program on earnings and employment relative to a comparison group who received only basic employment services. Results are presented as pooled effects across all partnerships. We also provide estimates of partnership-specific effects on employment and earnings. The sample includes only America's Promise participants who enrolled in program year 2019. **We uncover the following key findings from the impact study:**

- Participation in America's Promise led to a 6 percentage point increase in employment in the fourth quarter after program enrollment and a 4 percentage point increase in the eighth quarter after enrollment, both of which were statistically significant.

- Participation in America's Promise led to a statistically significant $2,697 increase in total earnings in the second year after program enrollment.

We examine partnership-specific effects in Chapter 6 and conclude in Chapter 7.

A.   The America's Promise partnerships

Eligible America's Promise grantees included workforce development organizations, education and training providers, economic development agencies, or industry groups. Each partnership had to include at least five employer and industry representatives, workforce investment systems, economic development agencies, and education and training providers, including community and technical colleges as well as community-based organizations that offer job training (DOL 2016).

Among the 23 awarded America's Promise grantees, the most common organization types to receive grant funds to establish and lead regional partnerships were community colleges (nine grantees) and local workforce development agencies (seven grantees). The remaining partnerships were led by nonprofit organizations (four grantees), a four-year college or university (one grantee), a higher education administrative entity (one grantee), and a state workforce agency (one grantee). The 23 America's Promise partnerships focused on one or more eligible industries, as defined in the Funding Opportunity Announcement. Among the 23 America's Promise partnerships, 13 partnerships focused on multiple industries while 10 focused on a single industry. Most grantees provided education and training in three primary industries: advanced manufacturing (16 grantees), information technology (12 grantees), and health care (nine grantees). America's Promise partnerships served participants in a total of 28 states (Figure ES.1). Six grantees established regional partnerships that crossed state boundaries and served participants in multiple states.

Exhibit ES.1. State locations of America's Promise grantee organizations
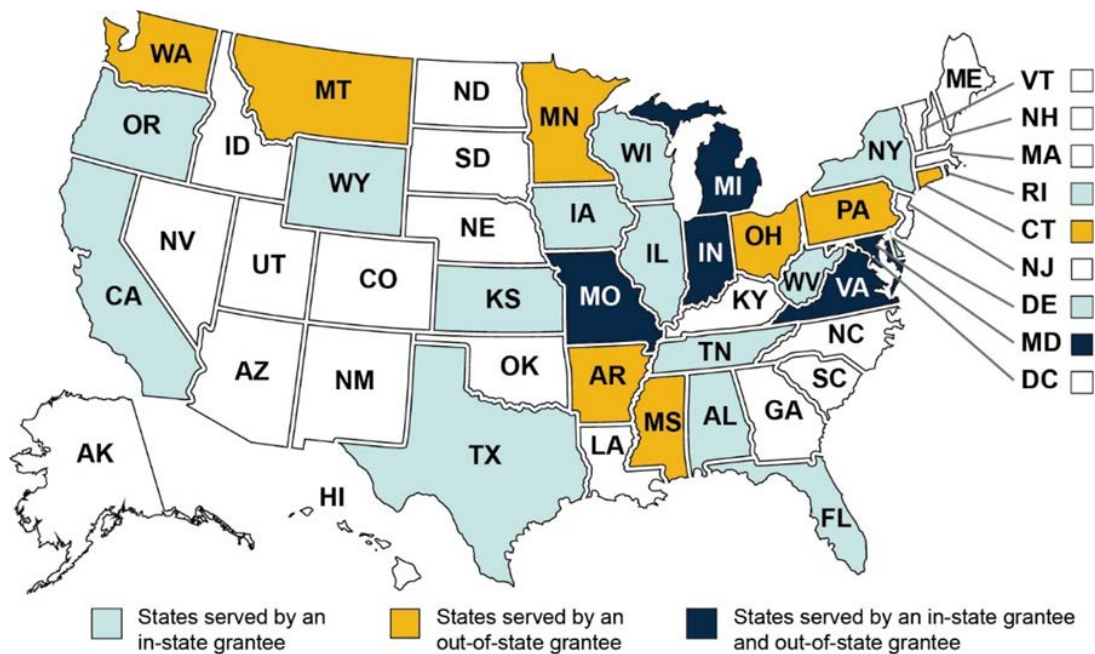
Source: America's Promise grant applications (N = 23).

From August 2016 to December 2021, 29,231 individuals enrolled in America's Promise, with 88 percent enrolling in PY2017–PY2019 (Exhibit ES.1).[2] The America's Promise program participants were diverse in terms of their demographic backgrounds and employment and training needs (Exhibit ES.2). About 31 percent of participants were ages 18 to 24 at program enrollment, 40 percent between ages 25 and 39, and 28 percent ages 40 or older. About half of participants (48 percent) identified as female and half identified as male (51 percent). Forty-eight percent of participants were White, non-Hispanic; 28 percent were Black, non-Hispanic; 15 percent were Hispanic; and 9 percent were of another racial or ethnic background. In keeping with the America's Promise program design, nearly all participants had a high school diploma or equivalent credential, and roughly half had at least some postsecondary education. Forty-seven percent of all participants were employed at program enrollment.

[2] America's Promise participant information is taken from the WIPS data. Three America's Promise participants were listed as having enrolled prior to August 2016.

Exhibit ES.2. Characteristics of America's Promise participants at program entrance (August 2016 to December 2021)

Sample Size   **29,231**

AGES (YEARS)

19 or younger	10%
20–24	21%
25–29	18%
30–39	22%
40–49	13%
50 or older	15%

GENDER

Male	51%
Female	48%

EDUCATION LEVEL

No high school diploma or GED certificate	0%
High school diploma or GED certificate	51%
Some postsecondary education	30%
Bachelor's degree or more	19%

RACE / ETHNICITY

Hispanic	15%
White, non-Hispanic	48%
Black, non-Hispanic	28%
Other race, non-Hispanic	9%

OTHER CHARACTERISTICS

47% Self-reported employed at program entry

4% Eligible Veteran

4% Criminal justice involvement

4% Disability

Source: Workforce Integrated Performance System data on America's Promise participants.

B.   Evaluating America's Promise

The outcomes and impact studies provide insights on the extent to which America's Promise shaped participants' employment and earnings.

- **Outcomes study.** The outcomes study describes the earnings and employment trajectories of America's Promise participants who entered in program years 2017 through 2019 (calendar years July 2017–June 2020) across all 23 partnerships before and after enrolling in the program.

- **Impact study.** The impact study estimates the extent to which America's Promise improved participants' earnings and employment. The study is limited to 12 of the 23 America's Promise partnerships for which we could obtain data on a comparison group of similar individuals, enrolled in Wagner-Peyser services. These data were provided only for program year 2019 (July 2019 – June 2020), so our analytic sample includes only America's Promise participants in that program year. The study estimates how employment and earnings evolved for America's Promise participants following participation in the program relative to what would have been expected if they had not participated in the program.

Data sources

To conduct these studies, the evaluation team obtained data on program participants, program outcomes, and earnings and employment outcomes from two data sources:

1. Workforce Integrated Performance System (WIPS) data maintained by the Employment and Training Administration, DOL. WIPS data on America's Promise participants includes participant background information and service receipt data. It is used to define program enrollment, identify participant characteristics, and describe training outcomes.

2. National Directory of New Hires (NDNH) data, maintained by the Office of Child Support Services, Administration for Children and Families, U.S. Department of Health and Human Services. NDNH is a national database of wage and employment information, and is used to obtain quarterly employment, earnings, and unemployment insurance benefits data on our analytic sample members. We obtained NDNH data for America's Promise participants starting in 2018.

For more information on these data sources, including the variables available and the available years of data, see the Technical Appendix.

C.   Outcomes study overview and key findings

In the America's Promise outcomes study, we describe the program outcomes of participants enrolled across all 23 America's Promise partnership programs for participants entering in program years 2017 through 2019, and their earnings and employment before and after their enrollment in the program. The outcomes study informs our understanding of how experiences among the impact study sample compare with the larger pool of America's Promise participants.

The COVID-19 pandemic occurred during the period covered by the outcomes study (2018–2022). Participants experienced the pandemic and the associated labor market impacts at different quarters relative to program enrollment. The program and labor market experiences of America's Promise participants, therefore, must be interpreted in the context of the COVID-19 pandemic and the period that followed.

Key findings from the outcomes study include the following:

- Most America's Promise participants completed training and received at least one credential through the America's Promise program. Among study participants, 80 percent completed their training program and 75 percent received a credential. Credentials included occupational certifications, occupational licenses, and postsecondary degrees up to a bachelor's degree. The most frequent credential participants received was an occupational certification (56 percent).

- The employment rate for America's Promise participants declined leading up to program enrollment and then increased immediately following program entry. Employment increased immediately after enrollment for all cohorts but increased more sharply for the 2017 and 2018 cohorts than for the 2019 cohort (Exhibit ES.3). The quick increase in employment reflects the generally short classroom training durations. The increase may represent participants quickly finding jobs following training programs. In addition, for some participants, the employment represents work-based learning opportunities (English et at 2022). Employment declined for the 2017 and 2018 cohorts at the onset of COVID-19 in the United States, shown in the stars in Exhibit ES.3. The 2019 cohort did not experience a sharp increase in employment, likely because the pandemic dampened employment levels observed immediately after enrollment.

Exhibit ES.3. The percentage of America's Promise participants employed by program year (PY) of enrollment, PY 2017-PY 2019
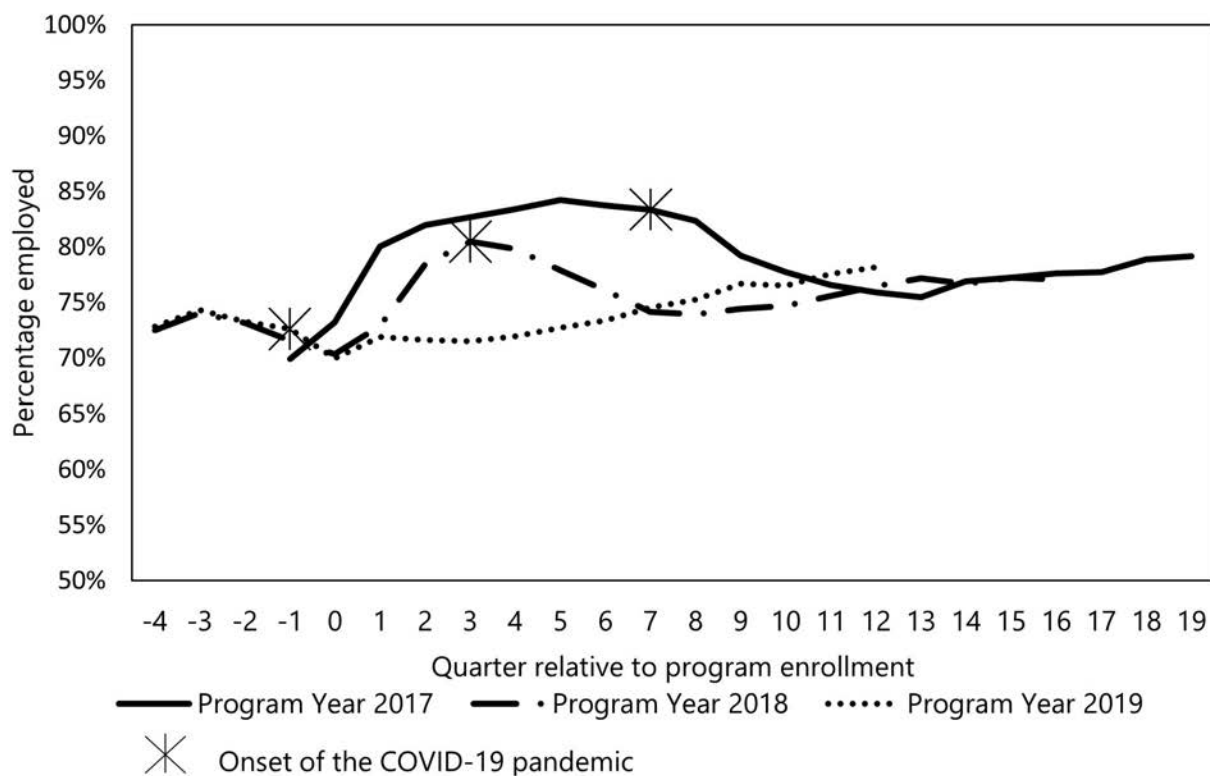
Source: NDNH data matched to WIPS data.

Notes: The sample consists of program participants enrolled in either program year 2017, 2018, or 2019 who were matched to the NDNH data. The total sample size across all program year cohorts is 23,608, and is 7,719 for program year 2019, 8,288 for program year 2018, and 7,601 for program year 2017. Stars indicate the onset of the COVID-19 pandemic.

NDNH = National Directory of New Hires; WIPS = Workforce Integrated Performance System.

- Average quarterly earnings for America's participants declined leading up to program enrollment and then increased following program enrollment (Exhibit ES.4). Earnings increased immediately after enrollment for all three cohorts, but at a smaller rate for the 2019 cohort (likely due to COVID-19). The 2017 and 2018 cohorts experience some leveling off in earnings after the onset of the pandemic.

Exhibit ES.4. Average quarterly earnings of America's Promise participants by program year of enrollment

Source: NDNH data matched to WIPS data.

Notes: The sample consists of program participants enrolled in either program year 2017, 2018, or 2019 who were matched to the NDNH data. The total sample size across all program year cohorts is 23,608, and is 7,719 for program year 2019, 8,288 for program year 2018, and 7,601 for program year 2017. Stars indicate the onset of the COVID-19 pandemic.

NDNH = National Directory of New Hires; WIPS = Workforce Integrated Performance System.

D.   Impact study overview and key findings

In the impact study, we estimate the impact of participation in an America's Promise program using a matched comparison design. Specifically, we estimate the difference, measured by employment and earnings, between participating in the America's Promise program and not participating in the program but receiving light touch employment services through the Wagner-Peyser program.

Methods

To determine what we would expect earnings and employment to be in the absence of the program, we identify a matched comparison group of similar individuals who did not participate in the America's Promise program but wanted workforce assistance. The America's Promise grants were designed to serve unemployed, underemployed and incumbent workers seeking assistance, including education and

training, to improve their labor market outcomes (DOL 2016). Given this focus, we use Wagner-Peyser participants as the comparison group. Like America's Promise participants, individuals enrolled in Wagner-Peyser looked to the workforce system to receive services to help them enter employment or increase their earnings, although the services received are less intensive than those received through America's Promise. Therefore, we contrast free education and training services coupled with additional supports offered through America's Promise to basic, light-touch career services provided through Wagner-Peyser.

We match America's Promise participants to Wagner-Peyser participants who lived within the service area of America's Promise grantees and has similar characteristics. First, all America's Promise participants are matched to Wagner-Peyser participants who live in a county served by America's Promise, share the same gender, resided in the same state, enrolled in training during the same quarter of the same program year, and who had the same employment status at the time of program enrollment. This is a partial exact matching approach. Second, we identified our comparison sample by choosing Wagner-Peyser participants who are similar in demographic and pre-program labor market characteristics to America's Promise participants within each exact matching unit. Section E of the appendix describes the matched comparison design in detail.

Due to limitations in data availability, the impact study is limited to participants who first enrolled in program year 2019 and who were served by partnerships in the nine states we were able to collect data: Florida, Kansas, Michigan, Oregon, Rhode Island, Tennessee, Virginia, Washington, and West Virginia. Twelve America's Promise grantees served participants in at least one of the nine states and therefore were included in the impact analysis.

Impact study partnership characteristics

Like the universe of America's Promise partnerships, those included in the impact study varied across multiple dimensions, including their grantee organization types, partnership structure, industries served, training approaches, size, and populations of interest. The partnerships were led by workforce development boards, agencies, or organizations (eight partnerships) and education and training providers (four partnerships). Most partnerships included many partners, according to results from a survey of grantees, with the typical partnership having 36 partner organizations other than the grantee. The 12 partnerships served between 37 and 2,198 individuals within our study states in program year 2019, according to the WIPS data. Most programs were relatively small, with all but one grantee having less than 600 participants and half having fewer than 150 participants in the impact study period.

Consistent with the full set of 23 partnerships, most partnerships in the impact study provided training in the fields of advanced manufacturing, health care, or information technology. Six of the 12 partnerships focused on a single sector, two focused on two sectors, and the remaining focused on three or more sectors. All impact study partnerships offered a range of education and training services, including classroom-based occupational skills training, higher education courses aligned with degrees, and work-based learning, regardless of their industry focus. However, the average training length varied across the partnerships, with some trainings taking as little as six weeks and others taking up to a year.

Participants were similar in observed characteristics between the impact study sample and the larger pool of participants across all grantees and program years, although they were more likely to be female (61 percent female in the impact sample relative to 48 percent among all participants).[3]

Impacts on earnings and employment

We estimate the impact of America's Promise participation on the following confirmatory outcomes:

1. Employment in the fourth quarter after program enrollment
2. Employment in the eighth quarter after program enrollment
3. Total earnings in the second year after program enrollment

We find that America's Promise participants experienced an immediate increase in employment and earnings relative to the comparison group of Wagner-Peyser participants. Key findings from the impact study include the following:

• **Employment.** America's Promise participants experienced an increase in employment relative to the comparison group by the first quarter after program enrollment (Exhibit ES.5). Looking at the confirmatory outcomes, participation in America's Promise led to a 6-percentage point increase in employment four quarters after enrollment and a 4-percentage point increase in the eighth quarter after enrollment. These impact estimates are larger than most impact estimates for other employment services, which generally find employment effects under 5 percentage points in similar time periods (Card et al. 2018).

Exhibit ES.5. Impact of participation in an America's Promise program on quarterly employment
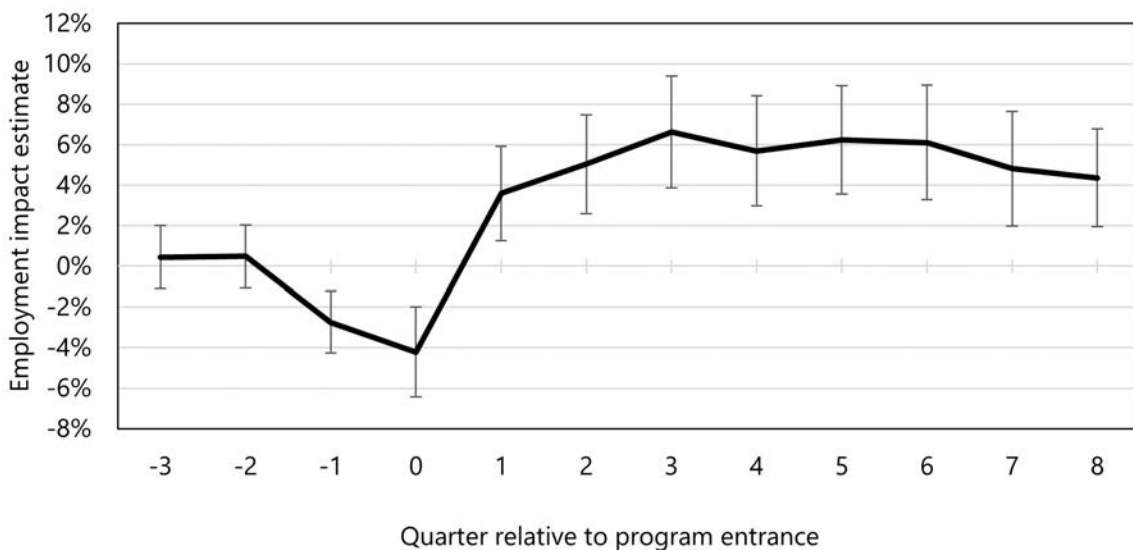
Quarter relative to program entrance

Source: NDNH data matched to WIPS data. Data cover the fourth quarter of 2018 through the second quarter of 2021 in Virginia and the fourth quarter of 2018 through the second quarter of 2022 in all other states.

Notes: Quarterly employment is defined as having any earnings in a quarter. Black error bars represent the 95 percent confidence intervals for each estimate. For a detailed description of estimation methods, see the technical appendix.

NDNH = National Directory of New Hires; WIPS = Workforce Integrated Performance System.

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[3] See Chapter 4 for a full comparison between participants in the impact study and those not in the impact study.

- **Earnings.** As with employment, America's Promise participants experienced a rise in earnings by the first quarter following program entry (Exhibit ES.6). Focusing on our confirmatory outcome, participation in America's Promise led to a $2,697 increase in earnings in the second year after enrollment, on average. These estimates are consistent with studies that examine other sectoral-based training programs (Katz et al. 2022) but larger than studies of general employment training programs that typically serve populations with lower baseline earnings than America's Promise participants (Shiferaw and Thal 2022).[4]

Exhibit ES.6. Impact of participation in an America's Promise program on quarterly earnings
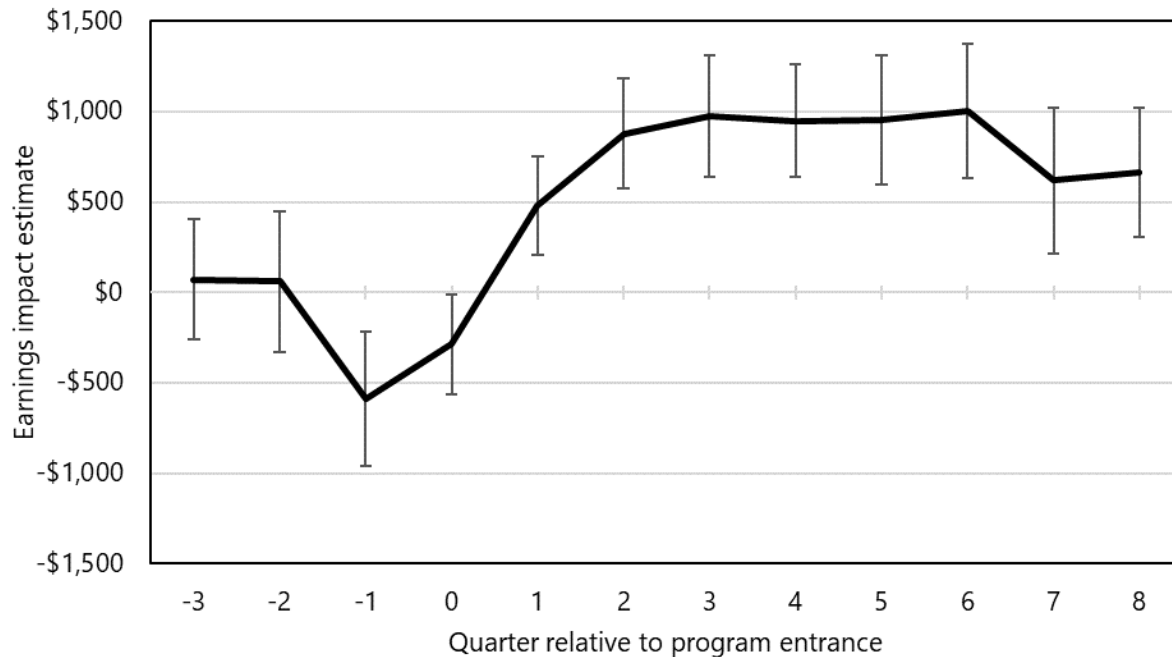
Source: NDNH data matched to WIPS data. Data cover the fourth quarter of 2018 through the second quarter of 2021 in Virginia and the fourth quarter of 2018 through the second quarter of 2022 in all other states.

Notes: For a detailed description of estimation methods, see the technical appendix. Black error bars represent the 95 percent confidence intervals for each estimate.

NDNH = National Directory of New Hires; WIPS = Workforce Integrated Performance System.

The impacts were estimated on a labor market heavily affected by COVID-19. Participants in the impact study entered the program between July 2019 and June 2020. The COVID-19-induced recession led to wide-scale unemployment (U.S. Bureau of Labor Statistics, 2021). Therefore, the positive impact estimates of America's Promise likely represent the program protecting America's Promise participants from employment loss or helping participants find jobs quickly. Due to the volatile labor market conditions, our strategy ensures an exact match on quarter of entry and state to ensure treatment and comparison group members are experiencing the same labor markets.

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[4] Katz et al (2022) review four randomized controlled trials (RCTs) of the WorkAdvance program and found substantial gains in participant earnings, averaging 13 percent in the second and third years following training completion. In contrast, Shiferaw and Thal (2022) reviewed 127 studies of employment services and found that no categories of employment services have an estimated impact of over $1,000 annually.

We also estimate a range of analyses to test how our results might change if we made different decisions on the methods. The results are substantively consistent across these analyses.

Partnership-specific effects

To further understand the effect of participation in America's Promise programs, we estimate partnership-specific impacts on earnings and employment. The America's Promise partnerships varied in many ways, including by industry of training, types of training, grantee type, types of partners, strength of partnerships, support services offered, and local labor market conditions. Given the small number of partnerships we were able to evaluate and the extent of their variation, it is impossible to statistically analyze which elements of programs led to higher or lower impacts. However, by estimating partnership-specific impacts, we can provide anecdotal evidence on the features of partnerships with higher and lower impacts.

We find that impact estimates vary across grantees but are mostly positive. Eight of the nine partnerships had positive estimated impacts on the earnings of America's Promise participants in the second year following program enrollment and four had estimated impacts over $4,000. Three of these four partnerships had a greater than 90 percent chance of having at least a $4,000 impact. Of the nine partnerships, six had a greater than 75 percent chance of increasing employment in each of the fourth and eighth quarters following enrollment. Looking at the commonalities among the partnerships with the largest estimated impacts, we see from site visit data that respondents from each reported strong involvement from workforce partners and offered work-based learning opportunities. There was no evidence that partnerships in certain industries or with certain grantee types had larger impacts than others.

E.   Policy implications

The results of this evaluation provide strong support for the effectiveness of these grants in increasing employment and earnings. The magnitude of the impact estimates is larger than for most impact estimates for employment services (Card et al. 2018; Shiferaw and Thal 2022). The impacts found in this study are closer to some recent estimates of the impact of sector-based training programs (Katz et al. 2022). However, other recent evaluations of sector-based training programs have not found positive impacts, suggesting that program design elements and participants served are important in determining success, even within sector-based training programs (Peck et al. 2021). This suggests that future programs should also consider implementing other promising elements of America's Promise programs.

These findings, combined with those from an implementation study of the America's Promise program (English et al. 2022a), bolster our understanding of the ability of sector-based training programs to set unemployed or underemployed people on a pathway to higher earnings. Although the America's Promise impact evaluation cannot determine which element or combination of elements were the most important to program success, it provides clear evidence that the set of services programs offered were effective in improving participants' employment and earnings. Findings from English et al (2022a) showed that successful programs focused on sector-based training programs in mid- to high-skill jobs, had robust employer partnerships, offered work-based learnings, and provided wraparound services. The results of

this study suggest that these program elements, particularly in combination, are promising strategies for setting unemployed or underemployed individuals on a pathway to higher earnings.

However, impacts were estimated during a unique economic environment caused by COVID-19. Although the estimates provide important evidence of the role that programs like America's Promise can play during economic downturns, it is possible that they do not reflect the effect of America's Promise among enrollment cohorts in other program years. Future research can help inform our understanding of the impact of America's Promise and other similar sector-based training programs in other economic conditions.

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I. Introduction

Throughout the United States, businesses continue to struggle with a persistent skills gap in which the qualifications of American workers do not align with workforce needs, as well as a labor shortage (Capranos and Magda 2023). In 2023 U.S. firms sponsored more than 120,000 nonimmigrant H-1B visas to hire foreign workers into skilled positions, selected from over 470,000 eligible applicants (U.S. Citizenship and Immigration Services 2023), as a way to address the shortage of skilled workers in high-demand industries. To reclaim some of these jobs for the American workforce, strengthen the pipeline of skilled workers among regions' workforces, and thereby create economic opportunities for America's workforce, in 2016 the U.S. Department of Labor (DOL), Employment and Training Administration's Division of Strategic Investment awarded more than $111 million to 23 grantees for the America's Promise Job-Driven Training Grants program (America's Promise). These four-year grants aimed to create or expand regional partnerships comprised of workforce agencies, institutes of higher education, economic development agencies, and employers to (1) identify the needs of industry sectors that typically rely on the H-1B visa program to hire skilled foreign workers and (2) implement sector-based training strategies and career pathways to prepare a domestic workforce for middle- to high-skilled jobs in those sectors (DOL 2016). The definitions of sector-based training, career pathways, regional partnerships, and middle- to high-skilled jobs are included below.

DOL's Chief Evaluation Office contracted with Mathematica and its partner, Social Policy Research Associates, to conduct an evaluation of the America's Promise grants. This report presents results from the America's Promise outcomes and impact analysis and draws on findings from the previously completed implementation study to provide context for the presented results (English et al. 2022a). This chapter provides background information on DOL's portfolio of similar programs, describes existing and emerging evidence on similar programs and partnerships, describes the America's Promise grants and resulting partnerships, and provides an overview of the impact and outcomes analyses included in this report.

Sector-based training, career pathways, and regional partnerships

Sector-based training and strategies prepare people to work in jobs or industries that align with both employer and labor supply needs in particular sectors. This approach aims to meet the needs of employers or industries that struggle to find skilled workers by creating partnerships that support workers who require additional education or training to progress in their careers or attain higher wages. Sector-based strategies are typically implemented at the regional level to ensure alignment with the needs of workers, employers, and industries within economic regions that may cross city, state, or other geographic boundaries.

Career pathways are frequently associated with sector-based training and sector strategies. This approach provides a combination of education and training, work-based learning, and credential attainment to advance individual workers along a sequence of jobs and occupations within a sector as they upgrade their skills.

Middle- to high-skilled jobs are those that require greater education than high school. These jobs may require varying levels of postsecondary education and training or industry-recognized credentials.

Regional partnerships are integral to sector-based training and career pathways initiatives because a variety of stakeholders must come together to effectively recruit workers, identify employer or industry skill needs, train and educate workers, and facilitate employer placements in a region.

Source: Holzer 2015 and DOL 2016.◢

A. Overview of the America's Promise partnerships

Building on DOL's prior efforts and emerging evidence, the America's Promise grant program encouraged regional partnerships to come together with a commitment—or a promise—to create a pipeline of trained workers to address regional labor market needs (DOL 2016). The funding opportunity announcement (FOA) laid out the requirements associated with the grant, including eligible industries, eligible populations, required partners, and service delivery requirements (DOL 2016).

1. Building on lessons from previous programs and partnerships

The America's Promise grants represent a continuation of DOL's commitment to supporting sector-based strategies and regional partnerships that meet employers' needs and prepare American workers for middle- and high-skilled jobs. The America's Promise model was built on lessons from previous grants, beginning in 2001 through 2016, and was designed to maximize the employment and earnings of participants. These sector-based strategies have developed with support from earlier DOL initiatives, including the High Growth Job Training Initiative, Workforce Innovation in Regional Economic Development grants, Trade Adjustment Assistance Community College and Career Training, Jobs Innovation and Accelerator Challenge (JIAC) grants, Advanced Manufacturing JIAC grants, Make It in America grants, the, Ready to Work, and TechHire grants.(Exhibit I.1). Regional partnerships have benefitted from the support of other federal initiatives, such as the U.S. Economic Development Administration's Investing in Manufacturing Community Partnership, as well as from philanthropic sources such as the National Fund for Workforce Solutions. The Workforce Innovation and Opportunity Act of 2014 (WIOA) recognizes the importance of sector strategies and regional partnerships and requires states to define regions and develop regional plans. The legislation also requires states to collaborate with businesses to develop and implement industry- or sector-based strategies that meet employer demand and prepare workers for available jobs (King and Prince 2019).

Exhibit I.1. Timeline of recent DOL grants focused on sector-based strategies and regional partnerships, 2001–2016
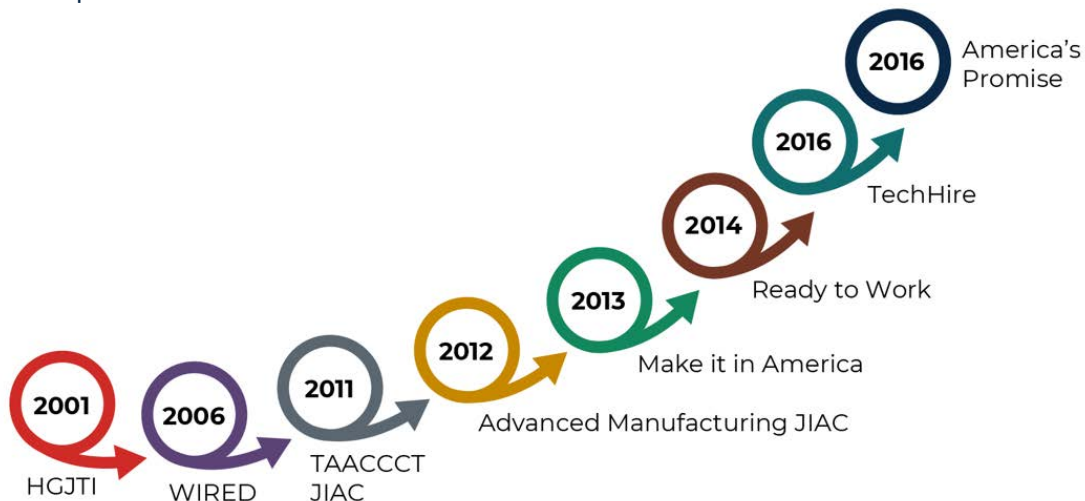
Source: DOL provided grant information.

Note: Dates only reflect the year the grants were first awarded.

DOL = Department of Labor; HGTI = High Growth Job Training Initiative; JIAC = Jobs and Innovation Accelerator Challenges; TAACCCT = Trade Adjustment Assistance Community College and Career Training; WIRED = Workforce Innovation in Regional Economic Development.

2. Eligible grantee organizations, industries, and populations

When developing their grant applications, grantees identified target industries, partners, populations of interest for services, and proposed services/activities. The America's Promise FOA laid out the requirements associated with the grant, including eligible grant recipients, eligible industries, eligible populations, required partners, and service delivery requirements (DOL 2016). Workforce development agencies, institutes of higher education, economic development agencies, and employer/industry groups could pursue America's Promise grants (DOL 2016).

Among the awarded grantees, community colleges (nine grantees) and local workforce development agencies (seven grantees) most often received grant funds to establish and lead regional partnerships. The remaining partnerships were led by nonprofit organizations (four grantees), a four-year college or university (one grantee), a higher education administrative entity (one grantee), and a state workforce agency (one grantee).

The industries targeted by the America's Promise grants include information technology (IT) and IT-related industries, advanced manufacturing, health care, financial services, and educational services. The grant was designed to fund education and training for high-growth jobs within each of these industries. According to the FOA, high-growth jobs are those that were projected to (1) add new jobs to the economy, (2) have job vacancies, (3) require workers to learn new skills because of changes caused by technology and innovation, or (4) have an impact on the overall economy or on the growth of other industries and occupations (DOL 2016).

> **Definitions of America's Promise eligible populations**
>
> - **Unemployed workers:** People who are without a job and who want and are available to work
>
> - **Underemployed workers:** People who are not currently connected to a full-time job commensurate with the person's level of education, skills, or wage or salary earned previously, or who have obtained only episodic, short-term, or part-time employment
>
> - **Incumbent workers:** People who are employed but need training to upgrade their skills to secure full-time employment, advance in their careers, or retain their current occupation in an H-1B occupation or industry
>
> Source: DOL 2016.◢

The 23 America's Promise grantees focused on one or more eligible industries, as defined in the FOA (DOL 2016). Among the 23 America's Promise partnerships, 13 partnerships focused on multiple industries while 10 focused on a single industry. Most grantees provided education and training in one or more of three primary industries: advanced manufacturing (16 grantees), IT (12 grantees), and health care (nine grantees). Among the 10 grantees that focused on multiple industries, five were able to identify one predominant industry of focus within the partnership. For example, a grantee that targeted both the IT and advanced manufacturing sectors indicated that it shifted its focus and resources to IT over time after it struggled to meaningfully engage employers and identify eligible advanced manufacturing participants. For the other five grantees that targeted multiple industries, the prominent industry varied across the partnership region to align with local needs or the grantee placed equal emphasis on multiple industries.

America's Promise partnerships served participants in a total of 28 states (Exhibit I.2). Six grantees established regional partnerships that crossed state boundaries and served participants in multiple states.

Exhibit I.2. State locations of America's Promise grantee organizations

Source: America's Promise grant applications (N = 23).
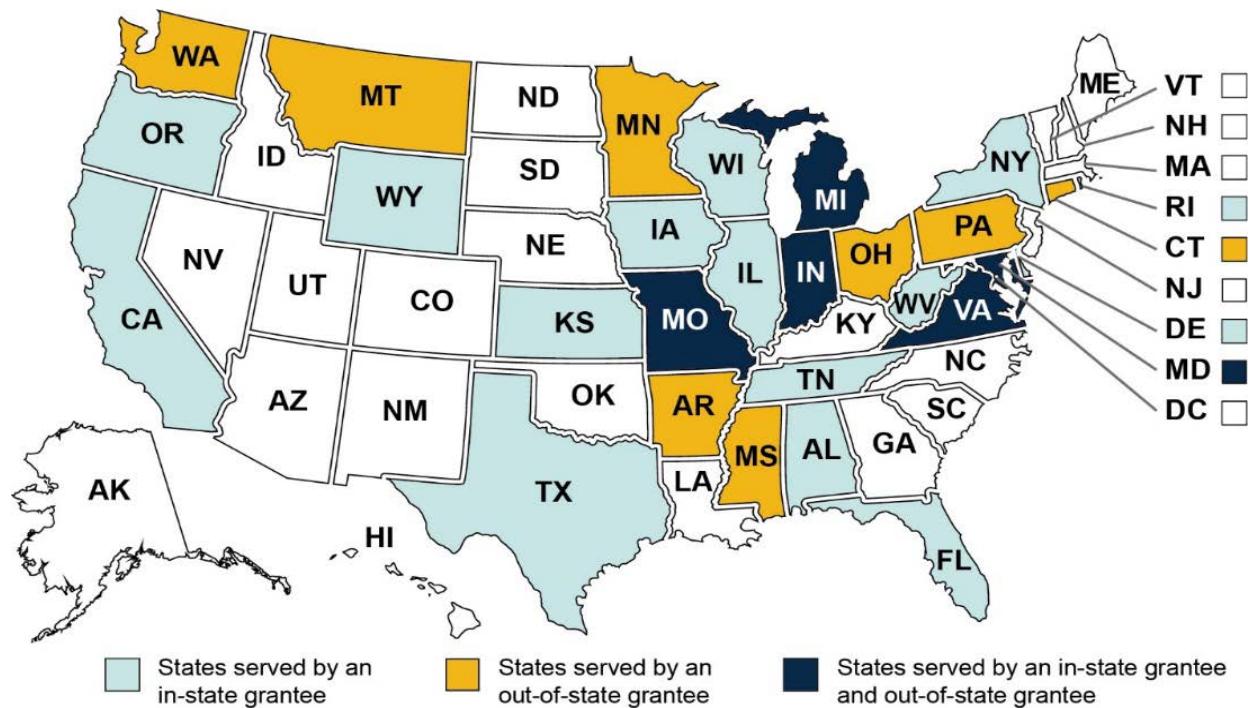
The grant eligibility criteria required partnerships to serve unemployed, underemployed, and incumbent workers (see definitions of these populations in the box on the previous page) interested in pursuing further education and training in these fields. America's Promise grantees were also encouraged to serve disadvantaged populations, which included people with low incomes, dislocated workers, underrepresented groups in the target industry (for example, women and racial minority groups), and those with barriers to employment (DOL 2016).

3. Required partners

As described above, eligible America's Promise grantees included workforce development organizations, education and training providers, economic development agencies, or industry groups. The required regional partners were employer and industry representatives, workforce investment systems, economic development agencies, and education and training providers—including community and technical colleges as well as community-based organizations that offer job training (DOL 2016). To ensure employers in the targeted industries were adequately involved, grantees were required to partner with a minimum of five employers or industry groups that represented at least five employers (DOL 2016).

4. Grantee funding and service delivery requirements

In addition to funding partnership activities, America's Promise grant funds were intended to cover the costs of education and training in the target industries and occupations, including participants' tuition and program fees. Within their regional partnerships, America's Promise grantees had to implement one or more of the following strategies: short-term or accelerated training, longer-term intensive training, or upskilling incumbent workers. Exhibit I.3 further defines each of these strategies as specified in the FOA. Within each strategy, America's Promise partnerships could fund various work-based learning and classroom training activities, such as registered apprenticeships, on-the-job-training, paid work experience, paid internships, classroom training, distance learning, and competency-based programs. In addition to their education and training offerings, partnerships provided additional services including case management, job placement support, and supportive services funding.

> **What are supportive services?**
>
> Supportive services are strategies that support people by addressing barriers that would otherwise prevent them from participating in or completing their education and training. These services commonly include assistance with transportation, child care, health care, and training supplies such as books.
>
> Source: DOL 2016 ◢

Exhibit I.3. America's Promise training strategies

Short-term or accelerated training	**Longer-term intensive training**	**Upskilling incumbent workers**
• Shortens the length of time required to complete training or attain credential or degree	• Provides a sequence of education and training offerings along a career pathway	• Assists employers in upskilling their existing workforce by offering relevant education or skills training that would allow current workers to move into middle- or high-skilled jobs
• Improves participants' skills and competencies for middle- and high-skilled jobs in H-1B industries	• Supports participants' progression and upward mobility in middle- and high-skilled employment in H-1B industries	• Provides participants with the skills and credentials necessary for career advancement in H-1B industries
• Includes approaches like competency-based education that provides credits for already-developed skills and allows participants to advance through the program as they demonstrate mastery of skills	• Includes high-quality education and training with a clear sequence for degree/credential attainment and professional growth	• Includes customized training and strategies for particular employers based on their skill needs

Source: DOL 2016

Note: America's Promise promoted the effective and efficient use of other federal, private, public, and philanthropic financial and in-kind resources to adequately meet participants' full range of training and service needs. Grantees were encouraged to identify other sources of financial aid to fund supplies, books, and other training-related expenses as well as offer job placement activities to support employment in the target industries and occupations. In addition, grantees could use up to 10 percent of grant funds to provide supportive services, such as child care and transportation, to participants to support their completion of education and training. Grantees were also encouraged to use the supportive services available through the Workforce Innovation and Opportunity Act and other providers in the region (DOL 2016).

5.   Period of performance and COVID-19

The America's Promise grants were awarded in January 2017 and had a performance period of 48 months. The COVID-19 pandemic influenced implementation in the final grant year as states and jurisdictions began implementing stay-at-home orders in March and April 2020. Recognizing the challenges presented to grantees including the pandemic, DOL allowed grantees to request a period of performance extension for up to one year. The pandemic appeared to create more education and training challenges in the advanced manufacturing and health care sectors that prioritize hands-on experience during training, whereas IT grant partnerships were well positioned to shift to virtual instruction (Bellotti, English, and Harrington 2021). See the issue brief entitled *Sector Training Strategies During the COVID-19 Pandemic* for additional information about how the COVID-19 pandemic influenced the America's Promise program.

B.   Evidence on similar programs and partnerships

Government-sponsored employment and training programs have existed for decades and have been evaluated with a wide range of results (Barnow and Smith 2015). Beyond a consistent decrease in earnings due to participants being out of the labor market or lowering hours during training, estimates of program effects vary significantly across studies, due to economic conditions and program features (Card et al. 2018). In their meta-analysis, Card et al. (2018) review over 200 studies of active labor market policies designed to address a range of labor market challenges (e.g., youth unemployment, persistent joblessness among displaced adults) and find that average impacts are close to zero in the short-run (less than a year after the end of the program) but find medium run (1 to 2 years post program) impacts of 3–5 percentage points on employment. Streke and Rotz (2022) review 144 employment interventions designed to help workers find and keep jobs. They find impacts ranging from an over 50 percent increase in outcomes for the most successful interventions to a lower than 10 percent decrease for the least successful interventions, highlighting the importance of program context and effective program design features. In a follow-up meta-analysis of 127 of the interventions reviewed by Streke and Rotz (2022), Shiferaw and Thal (2022) find that work and work-based interventions had the highest probabilities of improving outcomes.

A growing body of research on career pathways programs that offer education and training as well as supportive services to help workers progress through occupations in an industry sector also suggests that the approach may hold merit. A meta-analysis of 46 impact evaluations of career pathways programs found that programs led to gains in employment in the industry trained for and a 6 percent increase in short-term earnings, despite increases of over 150 percent in educational progress (Peck et al. 2022). Dozens of additional evaluations, including evaluations conducted by the Department of Labor, are ongoing, with results anticipated in coming years.

Training programs that employ regional- and sectoral-based strategies that aim to meet the workforce needs of businesses in a particular industry or sector have grown in popularity over the past decade and are being increasingly studied with encouraging results (Katz et al. 2022; Schaberg 2017). Sector-based strategies are considered to be particularly promising because they train workers for in-demand occupations, often with focuses on employer partnerships and wraparound services (Holzer 2015). Regional approaches to workforce investment reflect the reality that labor markets cross geographic boundaries, and therefore may more accurately target services to relevant workers. Katz et al (2022) review four randomized controlled trials (RCTs) of the WorkAdvance sector-based training program and

found substantial gains in participant earnings, averaging 13% in the second and third years following training completion. Schaberg (2020) highlights results from seven rigorous, randomized controlled trial impact studies of programs with a sector focus, including the Sectoral Employment Impact Study, Pathways for Advancing Careers and Education, WorkAdvance, Project Quest, Year-Up, Accelerated Training for Illinois Manufacturing, and Health Profession Opportunity Grants. Based on these studies, the paper found that sectoral employment programs consistently had a positive impact on training completion and attainment of credentials and certificates, as well as employment in the targeted sector. However, effects on overall employment and earnings were mixed. For example, Ready to Work Partnership Grant Evaluation included RCTs in four sites and showed no impact on earnings or employment among program participants (Klerman et al. 2022).

Despite substantial interest in promoting regional, sector-based, career pathways strategies and some promising research evidence suggesting that these approaches may be successful, there remains much to be learned about strategies for successfully implementing regional partnerships and the effectiveness of those efforts. This study of the America's Promise program seeks to build on this large research base by examining the effectiveness of sector-based strategies to meet employers' needs for skilled workers and to provide American workers with career pathways to middle- and high-skilled jobs.

C. Evaluating America's Promise

The America's Promise Job-Driven Grant Program Evaluation aims to fill some of the existing research gaps related to regional workforce partnerships and sector-based strategies through a rigorous mixed-method research program that evaluates the implementation, outcomes, and impacts of such approaches. This report presents the findings from the outcomes and impact studies of America's Promise participant employment and earnings outcomes. The outcomes study, like the previously completed implementation study, includes all 23 partnerships[5]. The impact study includes 12 partnerships for which we were able to obtain the necessary participant data.

1. Outcomes and impact study research questions

Outcomes study. The outcomes study describes the earnings and employment experiences of America's Promise participants across all 23 partnerships before and after their enrollment in the program. The America's Promise outcomes evaluation covers participants who enrolled in any America's Promise program from program year (PY) 2017 through PY2019. Because program years start in the third quarter of the calendar year, the outcomes evaluation includes all participants who enrolled in one of the 23 America's Promise programs between July 2017 and June 2020. This covers the primary enrollment period for America's Promise, with 88 percent of participants enrolling during the study period.[6] Specifically, we analyze the research questions listed in Exhibit I.4.

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[5] America's Promise grantees developed partnerships that included workforce development organizations, education and training providers, economic development agencies, or industry groups. Each partnership had to include at least five employer and industry representatives, workforce investment systems, economic development agencies, and education and training providers, including community and technical colleges as well as community-based organizations that offer job training (DOL 2016).

[6] Although some efforts to engage participants occurred in 2016, enrollment for America's Promise programs started in January 2017 and ended in September 2021.

Exhibit I.4. Outcomes study research questions

Question #	Outcomes study research question
Q.1	What share of America's Promise participants completed an America's Promise training program and what share completed a certification through the program?
Q.2	What were the earnings and employment levels of America's Promise participants?
Q.3	What share of America's Promise participants received unemployment insurance benefits?
How did completion rates and the earnings and employment levels of participants differ based on the timing of enrollment in America's Promise? In particular:	
Q.4a	How did completion rates and the earnings and employment levels of participants vary based on the program year of enrollment?
Q.4b	How did completion rates and the earnings and employment levels of participants vary based on whether their expected program completion was before or after the onset of the COVID-19 pandemic?
How did completion rates and the earnings and employment levels of participants vary based on different types of America's Promise programs? In particular:	
Q.5a	How did completion rates, and the earnings and employment levels of participants vary based on type of grantee (community college, workforce agency, or another type of organization)?
Q.5b	How did completion rates and the earnings and employment levels of participants vary based on the industry targeted by the training program?
How did completion rates and the earnings and employment levels of participants vary based on different groups of America's Promise program participants? In particular:	
Q.6a	How did completion rates and the earnings and employment levels of participants vary based on participants' gender?
Q.6b	How did completion rates and the earnings and employment levels of participants vary based on participants' employment status at time of program enrollment?
Q.6c	How did completion rates and the earnings and employment levels of participants vary based on participants' race and ethnicity?

Impact study. The impact study estimates the extent to which America's Promise improved participants' earnings and employment. The impact study is limited to 12 of the 23 America's Promise partnerships for which we could obtain data on a comparison group of similar individuals (see Section IV.A). The impact study is also limited to individuals enrolling in PY2019 in impact study states due to the availability of data on Wagner-Peyser participants[7]. In particular, the study estimates how earnings evolved for America's Promise participants following enrollment in the program relative to what would have been expected if they had not participated in the program. We consider a counterfactual scenario in which participants sought workforce services but only received limited services, such as those offered by the Wagner-Peyser program. We therefore compare the outcomes of America's Promise participants to a matched comparison group of Wagner-Peyser participants who would be expected to have similar outcomes to the America's Promise participants in the absence of the America's Promise program. We assess the extent to which America's Promise programs improved participants' outcomes and the time horizon over which any changes occurred. We supplement these results with additional outcomes to assess the financial well-being and stability of participants following the program. Specifically, we analyze the research questions listed in Exhibit I.5 using a sample of study participants from across the 12 America's Promise partnerships for which we have data on a comparison group (see Section IV.A for additional details).

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[7] The Wagner-Peyser Act established a nationwide system of public employment offices, which seek to improve the functioning of labor markets by connecting individuals seeking employment with employers seeking workers.

Exhibit I.5. Cross-partnership impact study research questions

Question #	Cross-site impacts research question
Confirmatory research questions[a]	
Compared with receipt of Wagner-Peyser services, what was the impact of participation in a program at one of 12 America's Promise partnerships on the following:	
C.1a	Employment in the fourth quarter after program enrollment
C.1b	Employment in the eighth quarter after program enrollment
C.1c	Earnings in the second year following program enrollment
Exploratory research questions	
Compared with receipt of Wagner-Peyser services, what was the impact of participation in a program at one of 12 America's Promise partnerships on the following:	
C.2a	Quarterly employment and earnings for eight quarters after program enrollment
C.2b	The rate at which individuals worked in a single job providing earnings greater than 200 percent of the federal poverty rate (for an individual) in the eighth quarter after program enrollment
C.2c	The rate at which individuals attained earnings in the eighth quarter following enrollment that were equal to or greater than their earnings in the third quarter before program enrollment
C.2d	Total earnings in the two years following program enrollment
C.2e	The total number of jobs worked in the two years following program enrollment
C.2f	Whether the individual worked two or more jobs in the eighth quarter after program enrollment
C.2g	Unemployment Insurance received in the two years following program enrollment
How did impacts of enrolling at one of 12 America's Promise partnerships on earnings and employment differ by the following subgroups:	
C.3a	Participants enrolled in America's Promise training programs targeting different industries
C.3b	Enrollment status (currently enrolled, previously enrolled, or not yet enrolled) when the COVID-19 pandemic[b] began to affect the United States
C.3c	Participant's gender; race/ethnicity; education; and designation as unemployed, underemployed, or an incumbent worker at program enrollment

Note: Any participant who enrolled in the America's Promise or Wagner-Peyser programs are considered to have participated, regardless of the services received.

[a] Confirmatory research questions describe the primary analyses, which will be used to assess whether there was an impact of program participation.

[b] We define the start of the COVID-19 pandemic as April 1, 2020.

We also assess how outcomes vary by participant and partnership characteristics to understand who benefits most from the programs and identify implementation characteristics associated with improved outcomes. To assess the impact of participation in programs provided by specific America's Promise partnerships, we also analyzed the research questions in Exhibit I.6.

Exhibit I.6. Partnership-specific impact study research questions

Question #	Partnership specific impacts research question
Confirmatory research question for each partnership[a]	
P.1	Given the impacts of participation in the other America's Promise programs in the study, what is the mean estimated impact of participation in a program at each partnership on earnings in the second year following program enrollment?
Exploratory research questions for each partnership	
Compared with receipt of Wagner-Peyser services and given the impacts of participation in the other America's Promise programs in the impact study, what is the probability that participation in the individual America's Promise program improved the following outcomes?	
P.2a	Employment in the fourth quarter following program enrollment?
P.2b	Employment in the eighth quarter following program enrollment?
P.2c	Earnings in the fourth quarter following program enrollment?
P.2d	Earnings in the eighth quarter following program enrollment?
P.2e	Earnings in the two years following program enrollment?
Compared with receipt of Wagner-Peyser services and given the impacts of participation in the other America's Promise programs in the impact study, what is the probability that participation in the individual America's Promise program had the following impacts?	
P.3a	Improved employment by 5 percentage points or more in the fourth quarter following program enrollment?[b]
P.3b	Improved employment by 5 percentage points or more in the eighth quarter following program enrollment?[b]
P.3c	Improved earnings in the second year following program enrollment by $2000 or more?[c]
P.3d	Improved earnings in the second year following program enrollment by $4000 or more? [c]

Note: Any participant who enrolled in the America's Promise or Wagner-Peyser programs are considered to have participated, regardless of the services received.

[a] Confirmatory research questions describe the primary analyses, which will be used to assess whether there was an impact of program participation.

[b] A threshold of 5 percentage points was chosen based on Card et al. (2018), which estimated that the average impact of training programs on employment rates one to two years after program entry was 5 percentage points.

[c] Thresholds of $2,000 and $4,000 were chosen to represent approximately 10% and 20% increases in earnings from a base annual earnings amount of approximately $22,000, as observed in the data.

2.   Data sources

To answer these research questions, the evaluation team tracked program outcomes as well as earnings and employment outcomes following program enrollment. The evaluation relies primarily on two data sources: (1) the Workforce Integrated Performance System (WIPS), maintained by the Employment and Training Administration, DOL; and (2) the National Directory of New Hires (NDNH), maintained by the Office of Child Support Services, Administration for Children and Families, U.S. Department of Health and Human Services. WIPS data on America's Promise and Wagner-Peyser participants includes participant background information and service receipt data. It is used to define program enrollment, identify participant characteristics, and describe training outcomes. NDNH data includes information collected through the unemployment insurance system and is used to describe quarterly employment, earnings, and unemployment insurance outcomes. For more information on these data sources, including the variables available and time period covered, see section B of the technical appendix.

The coverage of the NDNH earnings and employment data is based on the times at which the study team was able to request NDNH data and NDNH data retention policies. In particular, NDNH data on America's Promise participants for this study is limited to calendar year (CY) 2018 quarter (Q) 1 to CY2022 Q3 (see Appendix Exhibit A.2 for data available by program quarter). Therefore, the quarters of data available relative to program entry varied based on the timing of program entry. For Program Year (PY) 2017 Q1 enrollees, we were only able to obtain NDNH data beginning in the third quarter following program entry.[8] In contrast, we have data for up to five quarters prior to program entry for PY2019 enrollees. Overall, we have data on participants for as little as eight quarters, but as much as 19 quarters, following program entry, based on their quarter of enrollment. NDNH data for Wagner-Peyser participants is limited to CY2018 Q4 to CY2022 Q3.

3.   Sample description and characteristics

The America's Promise program participants were diverse in terms of their demographic backgrounds and employment and training needs (Exhibit I.7). About 31 percent of participants were ages 18 to 24 at enrollment, 40 percent between ages 25 and 39, and 28 percent ages 40 or older. About half of participants self-identified as female. Forty-eight percent of participants were White, non-Hispanic; 28 percent are Black, non-Hispanic; 15 percent are Hispanic; and 9 percent are of another racial/ethnic background. In keeping with the America's Promise program design, nearly all participants had a high school diploma or equivalent credential, and roughly half had at least some postsecondary education. Forty-seven percent of all participants were employed at program enrollment.

Several specific populations of interest for employment and training program evaluation are also represented among America's Promise participants. About 4 percent are veterans, 4 percent had been involved in the criminal justice system, and 4 percent had a self-reported disability that could limit their ability to work.

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[8] Program years run from July through June. Therefore, program year 2017 ran from July 2017 through June 2018.

Exhibit I.7. Characteristics of America's Promise participants at program entrance

Sample Size   29,231

AGES (YEARS)

19 or younger	10%
20–24	21%
25–29	18%
30–39	22%
40–49	13%
50 or older	15%

GENDER

Male	51%
Female	48%

EDUCATION LEVEL

No high school diploma or GED certificate	0%
High school diploma or GED certificate	51%
Some postsecondary education	30%
Bachelor's degree or more	19%

RACE / ETHNICITY

Hispanic	15%
White, non-Hispanic	48%
Black, non-Hispanic	28%
Other race, non-Hispanic	9%

OTHER CHARACTERISTICS

47%	4%	4%	4%
Self-reported employed at program entry	Eligible Veteran	Criminal justice involvement	Disability

Source: Workforce Integrated Performance System data on America's Promise participants.

Note: Participants enrolled in America's Promise between August 2016 to December 2021.

4. Limitations

It is important to recognize the limitations of the America's Promise evaluation. The outcomes study is descriptive in nature. While it provides important information on how the earnings and employment of America's Promise participants developed following the program, it does not provide causal estimates of program participation.

As described above, the impact results are limited by data availability. The impact results presented in this report only cover 12 partnerships for which we could obtain data and thus may not be representative of the full set of partnerships. In addition, the impact study is limited to participants who enrolled between July 2019 and June 2020 (PY2019). Therefore, the enrollment period for participants in both the outcomes and the impact studies overlapped with the onset of the COVID-19 pandemic, which complicates employment and earnings trends for America's Promise participants, as well as individuals enrolled in Wagner-Peyser services. Recognizing these limitations, in Chapter 4, we describe the training industries and participant characteristics of individuals in the impact study relative to the full set of participants across all partnerships, drawing on data from the WIPS and insights from the implementation study.

In Chapter 4, we also discuss potential threats to causal identification based on our comparison group design. For example, it is possible that there are differences in the unobservable characteristics of individuals who choose to participate in America's Promise and Wagner-Peyser services. We provide a discussion of how potential unobserved differences between these two populations may lead to bias in our impact estimates.

Due to the limited sample size for each America's Promise partnership in the impact study, our primary impact estimates pooled data across all grantees. We use Bayesian methods to borrow strength across grantees to partially address this limitation and provide partnership-specific estimates. The concept of borrowing strength allows the model to recognize that the impact estimate for one partnership provides some information about the likely impacts for other partnerships, and that noisier estimates (as measured by their standard error) provide less information. For example, if most partnerships show positive effects then we are more likely to estimate that another partnership has positive effects. Implicitly, this assumes that there is some commonality between partnerships; if in truth effectiveness for one partnership is not relevant to the effectiveness of other partnerships, then the Bayesian model will overstate our confidence (Gelman et al., 2012). However, this approach still requires the assumptions that estimates of the impact of other partnerships can inform our expectation of the impact of each partnership. Since all partnerships are part of America's Promise and follow a similar approach, the set of grantees can be assumed to be more similar to each other than they would be to other workforce interventions.

5. Structure of the report

This report presents results from the outcomes and impact analyses. In Chapter 2, we describe the implementation of the America's Promise program to provide context for interpreting the evaluation results. In Chapter 3, we present results from the outcomes analyses, including an examination of program completion outcomes, and earning and employment outcomes. We also examine variation by participant characteristics. Chapter 4 describes the characteristics of the impact study sample and the methods that we use to estimate the impact of America's Promise participation, including information on site selection,

characteristics of the impact study grantees, characteristics of and services received by the matched comparison group, and a description of the methods for identifying a matched comparison group. Chapter 5 presents results from the pooled impact estimates and describes how these vary by participant characteristics. Chapter 6 provides grantee-specific impacts on earning and employment and describes analysis methods for estimating the grantee-specific impact. The report concludes by highlighting key takeaways from the outcomes and impact analyses.

II. Implementation of the America's Promise grants

In this chapter, we present a summary of the results of the America's Promise implementation study and a description of the America's Promise participants. The full findings from the implementation study are available in a previously released report (English et al. 2022a). A recent meta-analysis of 127 interventions reviewed in the Pathways to Work Clearinghouse demonstrated that the efficacy of job training programs depends on what services were offered, how the program was implemented, and who the program serves (Shiferaw and Thal 2022). Therefore, to translate the results of the impact study to policy implications, it is crucial to understand how the program was implemented.

The America's Promise implementation study drew on data collected through virtual site visits with 18 partnerships and phone interviews with the remaining 5 partnerships, a grantee survey with all 23 partnerships, a partner network survey with 6 grantees and their partners, and WIPS data analysis for all 23 partnerships to answer the following research questions:

1. What was the regional and community context for the America's Promise partnerships?

2. How were regional workforce systems and partnerships developed and maintained over the life cycle of the grant? What factors influenced the development of regional partnerships and employer engagement?

3. What types and combinations of services and approaches did the partnerships provide? How were they implemented? What successes and challenges did partners face during implementation?

4. What changes did America's Promise grantees and their partners make to their programs as a result of the COVID-19 pandemic?

5. What were the characteristics of the participants?

Data collected about implementation examined how grantees identified regions and industries to be served through the partnerships, processes for recruiting and enrolling participants, and education and training services offered and provided to America's Promise participants. Exploring these topics through virtual site visits enabled the study team to understand if available services were unique to the partnerships, as well as other services available in the targeted regions and industries. Through implementation data collection, the study team learned about services available to and offered to participants, but these services do not necessarily reflect services received by America's Promise participants. As described by site visit respondents, each partnership developed a package of services available to enrolled participants. However, participants could opt to engage in a subset of available services and the intensity of services, such as case management, varied based on needs identified by participants. This chapter describes key findings from the implementation study, summarizes key characteristics of America's Promise participants, and identifies considerations for the impact study findings.

A. Key findings from the implementation study

By providing insights on the services available to America's Promise participants as well as the extent to which these services were unique to America's Promise partnerships, the implementation study provides

important context for findings from the impact study. Here, we identify key findings that provide additional context for interpreting results from the outcomes and impact analyses:

- **America's Promise partnerships developed programs aligned with the needs of specific industry sectors and associated occupations.** Among the 23 America's Promise partnerships, 13 partnerships focused on multiple industries while 10 focused on a single industry. The partnerships served three primary industries: advanced manufacturing (16 partnerships), IT (12 partnerships), and health care (nine partnerships). Among the 12 partnerships included in the impact study, six focused on a single industry and six focused on multiple industries. Similar to the full set of partnerships, nine partnerships targeted advanced manufacturing, six targeted health care, and five targeted IT.

- **America's Promise services often built upon or complemented education and training offerings available in the target regions, including building on prior or current grant efforts**. America's Promise partnerships offered a range of training and education offerings. Most partnerships included in the virtual site visits (16 of 18) integrated or adapted some existing education or work-based learning offerings for their service delivery models. Often, all or some of these offerings were available to other community members, but America's Promise participants could access additional case management, job placement, and supportive services, described below. The scope of these services, however, varied across partnerships. In several impact study partnerships, America's Promise participants enrolled in the same training and education programs that were also available to other community members. Other impact study partnerships provided a mix of existing and newly developed education and training offerings. For a number of these partnerships, America's Promise participants enrolled in common training offerings, such as Certified Nursing Assistant programs, but their classes were comprised of only America's Promise participants. Other partnerships developed new training offerings, including work-based learning offerings, available only to America's promise participants.

- **Partnerships employed multiple approaches to recruit potential participants and sought to create multiple entry points for enrollment.** Partnerships recruited broadly for America's Promise. At least five partnerships, typically those led by institutes of higher education, tapped individuals already enrolled in education or training offerings to participate in America's Promise. Others worked closely with employer partners to recruit new training participants. In these instances, interested individuals could apply to America's Promise through employers. According to interviewed grant managers, employer referrals were reported as essential to engaging incumbent workers in America's Promise services. Of the 23 partnerships, as reported in the grantee survey, 16 used community outreach, such as attending community events, as a recruitment method. Sixteen of the 23 partnerships used referrals from education and training partners or workforce system partners as a recruitment method. During the virtual site visit focus groups, participants identified the potential to earn credentials in a high-growth industry and the opportunity to receive tailored job search support as what most attracted them to America's Promise.

- **America's Promise partnerships sought to serve disadvantaged populations and underrepresented groups.** Nearly all partnerships (21 of 23) indicated they sought to engage workers with low incomes for services. Seventeen partnerships indicated they aimed to recruit veterans for services. At least six partnerships sought to engage racial minority groups and women because they are underrepresented in certain H-1B fields and industries, such as IT and advanced manufacturing.

- **To ensure that potential participants were interested in and eligible for services, partnerships created processes to screen and then enroll participants.** Approaches included information sessions or orientations prior to enrollment (6 partnerships), implementing and assessing standard eligibility requirements (23 partnerships), administering assessments (16 partnerships), and conducting interviews (20 partnerships). When considering eligibility, all partnerships established eligibility criteria beyond the DOL-specified criteria. Additional criteria included minimum level of educational attainment, residency in designated locations, income thresholds, and minimum skill levels and aptitudes. Interviews focused on assessing fit for the training offerings, as well as potential barriers that participants might face. Exhibit II.1 provides an overview of the process for linking participants to services. To be enrolled as an America's Promise participant, as described during site visits, an individual needed to successfully make it through each step of the screening process.

Exhibit II.1. Sequence to linking participants to America's Promise services
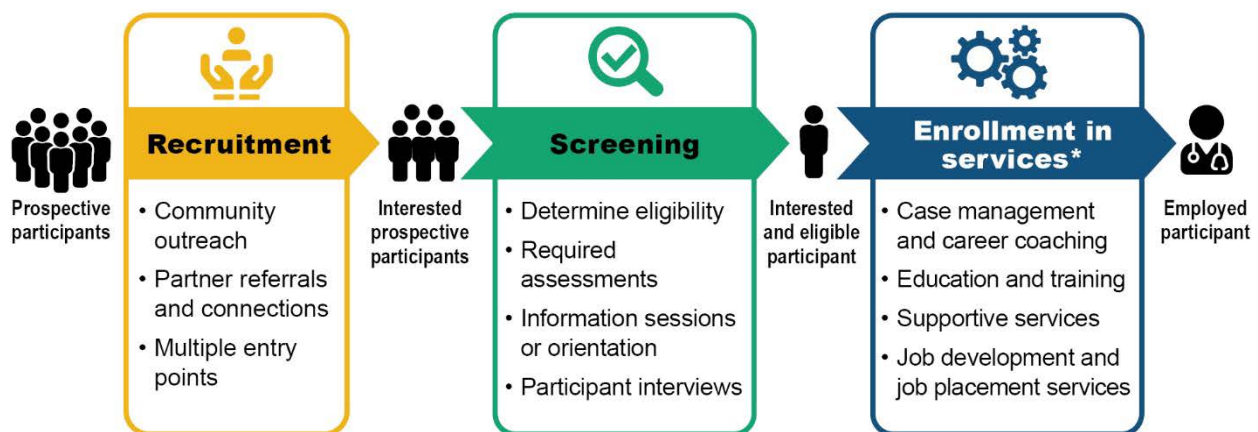
Source: Virtual site visits (N = 18).

- **Partnerships followed centralized or decentralized models for providing participants with case management services.** Among the 18 partnerships that participated in virtual site visits, 10 partnerships provided centralized case management in which one partner was responsible for case management. Seven partnerships used a decentralized approach in which multiple partners provided case management services. One partnership did not report providing case management services.[9]

- **Case management services included connecting participants with training and providing participants with ongoing support while enrolled in training.** Case managers interviewed during the virtual site visits commonly consulted with participants about their training options, supported their enrollment in education and training, and connected them with supportive services (Exhibit II.2). Common supportive service offerings, identified in the grantee survey, included transportation assistance (19 of 23 partnerships), training materials support (16 of 23 partnerships), and child care support (10 of 23 partnerships), among others. In response to shutdowns and closures related to the

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[9] For example, in one partnership using the centralized model, the workforce partner staff conducted all case management, but participants received services such as education, through other partners. In another partnership, using a decentralized model, participants received case management based on their program entry point. If a participant enrolled through the education partner, then education partner staff provided case management. Alternatively, if a participant enrolled through the workforce partner, workforce partner staff provided case management throughout program enrollment.

COVID-19 pandemic, three partnerships helped participants address technology-related needs, such as helping them obtain devices or reliable internet. Interviewed case managers used multiple modes of communication, including phone, text messaging, email, or videoconferencing (such as Zoom), in addition to in-person meetings.

Exhibit II.2. Number of partnerships offering case management at various points in service delivery

Source: Virtual site visits (N = 18).

Note: The counts in this figure are not mutually exclusive. Partnerships may be counted twice if they offered case management at multiple points throughout service delivery.

- **Partnerships used leveraged funds and in-kind contributions to support their operations and education and training activities.** As identified during 18 virtual site visits, leveraged funding sources included WIOA (six partnerships), Pell Grants (five partnerships), and employer contributions (four partnerships) to support participants' training enrollment. By using leveraged funding, partnerships matched participants with the best available funding source. For example, if a participant was eligible for WIOA funding, the partnership would use WIOA funding rather than America's Promise funding to cover training costs. Partnerships also relied on in-kind supports, such as staff time, office space, and equipment to support their operations.

- **All 23 partnerships provided some form of short-term or accelerated training to participants; 18 provided long-term, intensive training, and 20 provided training to upskill incumbent workers.** As identified in the grantee survey, the duration of training, across all strategies and partnerships, ranged from less than three months (reported by seven grantees) to 25 or more months (reported by one grantee). The approach to classroom training varied across partnerships but was typically offered through courses, boot camps, or academies. Classroom training commonly preceded or occurred alongside work-based learning components. At least four IT- or advanced manufacturing-focused partnerships also discussed having industry-related equipment for classroom training in which participants received hands-on training in a classroom setting. According to WIPS data, 75 percent of America's Promise participants received at least one credential. The most common credentials attained were occupational certificates (56 percent of participants), followed by occupational licensures (9 percent), associate degrees (6 percent), bachelor's degrees (2 percent), or some other type of recognized diploma, degree, or certificate (13 percent) through the America's Promise program.

- **Work-based learning was reported to take place in the form of apprenticeships, internships, and on-the-job training hours.** As identified through virtual site visit interviews, work-based training opportunities were more common in partnerships that focused on the advanced manufacturing and health care industries than the IT industry. Incumbent worker training was available across all America's Promise industries. Within and across partnerships, some incumbent workers participated in the same training as other America's Promise participants, while others participated in training that was aligned to the specific needs of the employer partner.

- **Partnerships cited challenges in providing education and training services, many of which stemmed from participants' needs for supportive services.** Respondents from nearly all partnerships (15) in the site visits believed that barriers—namely, limited child care availability and lack of public transportation options—prevented at least some participants from fully engaging in or completing the education and training available through America's Promise. Respondents from six partnerships indicated the lack of money for other expenses (that is, inability to give up an income) as one of the primary challenges participants faced while enrolled in education or training.

- **After training ended, all partnerships provided job development and placement services to prepare participants for employment or connect them to available employment opportunities.** According to the grantee survey, all 23 partnerships offered one or more services to prepare participants for the application and interview process, including resume writing workshops or assistance (23 partnerships), mock interviews (20 partnerships), and soft skills training (21 partnerships). All 18 partnerships in the virtual visits provided services to connect participants with open jobs.

- **Establishing meaningful hiring partnerships with employers was a perceived challenge related to job placement.** Six of the 18 partnerships involved in virtual visits described job placement challenges, including a lack of clear communication from employers about their hiring standards (one partnership), limited job vacancies (one partnership), economic downturns that slowed hiring (five partnerships), and the loss of employer partners for reasons outside their control (one partnership).

Additional findings from the implementation study are available in a [comprehensive final report](#), as well as a [series of topical issue briefs](#).

B. Characteristics of America's Promise participants at program enrollment

From August 2016 to December 2021, 29,231 individuals enrolled in America's Promise, with 88 percent enrolling in PY2017–PY2019 (Exhibit II.3).[10] Because DOL program years run from July through June, this represents the calendar period July 2017 through June 2020.

Consistent with the target populations of the grant, America's Promise participants had high levels of education and low levels of reported barriers to employment (Exhibit II.3). Nearly all of America's Promise participants graduated high school, with almost half (49 percent) having at least some postsecondary education. Only a small share of participants reported barriers to employment such as being an eligible veteran (4 percent), having a criminal justice history (4 percent), or having a disability (4 percent). Participants tended to be relatively young, with an average age of 33 and 72 percent of the participants under age 40. Despite the changing economic landscape over the program period, in particular due to

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[10] America's Promise participant information is taken from the WIPS data. Three America's Promise participants were listed as having enrolled prior to August 2016.

COVID-19, participant characteristics were largely consistent across program years, although many differences were statistically significant due to the large sample sizes. Participants that entered in PY2019, the entry year for the impact study, were five percentage points more likely to be female than the average over all years.

Exhibit II.3. Characteristics of America's Promise participants at program enrollment, PY2016 – PY2021

Characteristic (percentage if not otherwise specified)	All participants	PY2017	PY2018	PY2019
Sample size	29,231	8,375	9,124	8,280
Age (years)	33.0	32.5	33.1	33.6
19 or younger	10%	10%	10%	9%
20–24	21%	22%	21%	20%
25–29	18%	19%	17%	17%
30–39	22%	21%	23%	23%
40–49	13%	13%	14%	14%
50 or older	15%	14%	15%	17%
Female	48%	46%	50%	53%
Race and ethnicity	-	-	-	-
Hispanic	15%	14%	17%	15%
White, non-Hispanic	48%	52%	47%	45%
Black, non-Hispanic	28%	26%	27%	32%
Other race, non-Hispanic	9%	8%	9%	9%
Education level	-	-	-	-
No high school diploma or GED certificate	0%	0%	0%	0%
High school diploma or GED certificate	51%	53%	49%	49%
Some postsecondary education	30%	32%	32%	28%
Bachelor's degree or more	19%	16%	19%	22%
Self-reported employed at program entry	47%	44%	47%	46%
Eligible veteran	4%	4%	4%	3%
Criminal justice involvement	4%	5%	5%	4%
Disability	4%	3%	4%	4%

Source: Workforce Integrated Performance System (WIPS) data.
Note: Characteristics were reported at program entrance.
PY = Program Year.

America's Promise participants had high levels of employment but low and decreasing earnings in the quarters prior to enrollment, according to NDNH data (Exhibit II.4). Participants earned an average of $5,249 per quarter in the three quarters prior to enrollment, which translates to $20,996 in annual earnings. This is approximately 125 percent of the federal poverty level for a family of two and less than the federal poverty level for a family of three.[11] Approximately 72 percent of participants were employed

[11] Based on 2018 federal poverty guidelines. Available at https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines/prior-hhs-poverty-guidelines-federal-register-references/2018-poverty-guidelines.

(defined as having at least some earnings) in each of the three quarters prior to enrollment, with 59 percent employed in all three quarters. Only 15 percent of participants received unemployment insurance in any of the three quarters prior to enrollment. Pre-enrollment earnings and employment were very similar for PY2018 and PY2019 participants. Average quarterly earnings for the three quarters prior to enrollment were more than $5,000 for PY2018 participants, compared to just over $5,350 for PY 2019 participants. Employment rates were nearly identical for these two groups in the three quarters prior to enrollment: 60% for those in PY2018 and 61% for PY2019 enrollees. Due to the timing of data collection, there is limited pre-enrollment data for PY2017 participants, so we do not include a column for this year in Exhibit II.4.

Exhibit II.4. Pre-enrollment earnings and employment of America's Promise participants

Characteristic (percentage if not otherwise specified)	All participants (PY2018-2019)	PY2018	PY2019
Sample size	20,349	8,288	7,719
Pre-program employment	-	-	-
All three quarters pre-enrollment	59%	60%	61%
One quarter pre-enrollment	71%	71%	72%
Two quarters pre-enrollment	72%	72%	73%
Three quarters pre-enrollment	73%	73%	74%
Pre-program earnings ($)	-	-	-
Average quarterly earnings in the three quarters pre-enrollment	$5,249	$5,033	$5,357
One quarter pre-enrollment	$4,825	$4,688	$5,114
Two quarters pre-enrollment	$5,281	$4,984	$5,443
Three quarters pre-enrollment	$5,417	$5,134	$5,513
Pre-program unemployment insurance	-	-	-
Any of the three quarters pre-enrollment	15%	13%	11%
One quarter pre-enrollment	9%	7%	8%
Two quarters pre-enrollment	6%	4%	5%
Three quarters pre-enrollment	4%	3%	4%
Number of jobs in the three quarters before enrollment (average)	1.9	1.8	1.9

Source: National Directory of New Hires data matched to Workforce Integrated Performance System data.

Note: Analysis is limited to individuals with data available in at least one quarter prior to enrollment. Employment is defined as having any earnings in a quarter. Due to the timing of data collection, there is limited pre-enrollment data for PY2017 participants, so we do not include a column for this year.

PY = Program Year.

C.   Considerations for the America's Promise impact study

The implementation study highlights important features of the America's Promise program when considering results from the impact study. Interpreting results from the impact study requires understanding how participants are selected into the treatment group (America's Promise) and the comparison group (Wagner-Peyser) and the contrast in services received by the two groups. Findings from the America's Promise implementation study lend key insights into both of these features. Chapter

IV provides additional information on impact study partnerships' offerings and features of the Wagner-Peyser comparison group, including available services.

Through America's Promise, DOL sought to prepare unemployed, underemployed, and incumbent workers for employment in H-1B occupations, which shaped the selection and eligibility requirements that the partnerships implemented (DOL 2016). As detailed in the FOA, the America's Promise grants were intended to increase opportunities for training aligned with middle- to high-skilled occupations in industries using the H-1B visa program (DOL 2016). Given this focus, the America's Promise impact study partnerships developed recruiting screening processes, aligned with ensuring participants' success in education and training programs. All 12 impact study partnerships indicated in the grantee survey that their primary recruitment methods included referrals from education and training providers, workforce partners, or employers. Because America's Promise grantees relied on their partner networks for recruiting, as described during virtual site visits, participants could connect with services through varied entry points. Alternatively, members of the matched comparison group all connected to Wagner-Peyser services through the workforce system.

The America's Promise grants required participants to pursue an identified middle- to high-skilled occupation so that they could develop the competencies needed to enter middle and high-skilled jobs (DOL 2016). Given this mandate, partnerships often required participants to have specific education experience and/or for participants to achieve certain scores on intake assessments. As reported in grantee survey responses, all partnerships screened participants for interest in training and the target industry sector. This typically involved completing interviews with program staff. All partnerships also imposed education requirements, including high school or high school equivalency completion. Depending on the training offering a participant was interested in, partnerships also required prospective participants to complete assessments to determine their math and/or reading skills. Beyond educational requirements, partnerships included in virtual site visits reported that they instituted drug and criminal background screening, depending on industry and employer requirements. For example, advanced manufacturing employers often required those enrolling in on-the-job training to pass a drug test before entering training. Wagner-Peyser services, however, are available broadly to job seekers looking for career services through the American Job Center (AJC) system (English and Holcomb, 2020).

America's Promise funded participants' enrollment in education and training options in target industry sectors. The America's Promise FOA and implementation study highlighted requirements for sector engagement and approaches for meeting industry needs (DOL 2016), including the following:

- **Offering sector-specific training.** As outlined in the FOA, the partnerships had to offer training in the specific sector aligned with identified middle- to high-skill occupations.
- **Involving employers as partners.** Given this sector focus, DOL further required grantees to engage at least five employers in the target sector(s) in their partnerships. This requirement built employer engagement in the partnerships and appeared to strengthen employers' engagement in work-based learning offerings and job placement for America's Promise participants (English et al. 2022b).
- **Delivering training aligned with employer needs.** As further detailed in Chapter IV, impact study partnerships often focused on short-term and accelerated training offerings, such as bootcamps. In addition to these offerings, impact study partnerships offered work-based learning opportunities, such

as on-the-job training. As a result, America's Promise participants could quickly move to employment upon training completion and, in the case of on-the-job training, were also being paid while enrolled in training (English et al. 2022a).

In comparison, individuals enrolled in Wagner-Peyser services could be referred to WIOA Adult and Dislocated Worker services to enroll in training across industries, but education and training offerings are not embedded in Wagner-Peyser programming. In addition, Wagner-Peyser services do not include targeted industry outreach and employer engagement (Employment and Training Administration n.d.).

Finally, America's Promise partnerships offered additional services centered on helping participants complete grant-funded education and training. All impact study partnerships provided case management to participants to support participants while enrolled. Case managers could refer participants to other services available in the community and also offer supportive services, such as transportation assistance. In addition to these services, America's Promise partnerships also provided job placement support by offering resume assistance, mock interviewing, and other opportunities. Individuals enrolled in Wagner-Peyser can opt to receive staff-assisted career services, like resume assistance, but they are not able to access additional ongoing case management or supportive services through the Wagner-Peyser program.

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III. Outcomes Study

The America's Promise outcomes study describes the program experiences of participants enrolled across all 23 America's Promise partnership programs from PY2017 through PY2019 (CY July 2017 through June 2020), and their earnings and employment before and after their participation in the program. The impact study, presented in the following chapters, attempts to assess the causal program impact among a subset of America's Promise participants—those who enrolled in an America's Promise program in one of our impact study states during PY2019 (CY July 2019 through June 2020). In addition to providing important evidence on the earnings and employment of America's Promise participants, the outcomes study informs our understanding of how experiences among the impact study sample compare with the larger pool of America's Promise participants. This chapter lists the outcomes study research questions, details the data source and sample, describes the descriptive approach we use to analyze America's Promise participant outcomes, and presents the results of the analysis.

> **Key findings**
>
> - **Most participants received at least one credential through the America's Promise program (75 percent) and completed their training program (80 percent).**
> - **In the fourth quarter after enrollment, 78 percent of America's Promise participants were employed and participants earned an average of $6,904.**
> - **The employment rate for participants declined leading up to program enrollment but increased in each of the first four quarters after enrollment.**
> - **Average quarterly earnings for participants declined leading up to program enrollment but increased in each quarter after enrollment.**
> - **The employment trends for America's Promise participants were observed to be mostly similar across key subgroups. Participants enrolled in a health care program, male participants, and participants unemployed at program entry were observed to experience relatively larger increases in earnings compared to their counterparts.◢**

A. Outcomes study design

To analyze the outcomes of America's Promise participants, we assessed program and labor market outcomes for the pooled sample of participants and by key subgroups. Specifically, we analyzed the research questions listed in Exhibit III.1.

Exhibit III.1. Outcomes study research questions

Question #	Outcomes study research question
Q.1	What share of America's Promise participants completed an America's Promise training program and what share completed a certification through the program?
Q.2	What were the earnings and employment levels of America's Promise participants?
Q.3	What share of America's Promise participants received unemployment insurance benefits?
How did completion rates and the earnings and employment levels of participants differ based on the timing of enrollment in America's Promise? In particular:	
Q.4a	How did completion rates and the earnings and employment levels of participants vary based on the program year of enrollment?

Question #	Outcomes study research question
Q.4b	How did completion rates and the earnings and employment levels of participants vary based on whether their expected program completion was before or after the onset of the COVID-19 pandemic?
How did completion rates and the earnings and employment levels of participants vary based on different types of America's Promise programs? In particular:	
Q.5a	How did completion rates, and the earnings and employment levels of participants vary based on type of grantee (community college, workforce agency, or another type of organization)?
Q.5b	How did completion rates and the earnings and employment levels of participants vary based on the industry targeted by the training program?
How did completion rates and the earnings and employment levels of participants vary based on different groups of America's Promise program participants? In particular:	
Q.6a	How did completion rates and the earnings and employment levels of participants vary based on participants' gender?
Q.6b	How did completion rates and the earnings and employment levels of participants vary based on participants' employment status at time of program enrollment?
Q.6c	How did completion rates and the earnings and employment levels of participants vary based on participants' race and ethnicity?

1. Data sources and sample

The outcomes study relies on two data sources: (1) WIPS and (2) the NDNH database. We collect WIPS data for all America's Promise program participants who enrolled in one of the 23 America's Promise programs. WIPS data indicates whether a participant received a credential through America's Promise and whether a participant completed the America's Promise training program. A credential is an occupational certificate or license, diploma, or degree. The data also includes participant characteristics: age, disability status, education level, employment status at program entry, ex-offender status, gender, grantee type, industry of the America's Promise training program, and race and ethnicity. WIPS data is collected by grantees and/or their partners, submitted through a formal process to the DOL, and verified. NDNH data includes employment status, earnings, and receipt of unemployment insurance benefits at the calendar-quarter year level. Employers report their employees' quarterly wages to the state workforce agency. These agencies collect unemployment data. State and federal agencies report this information to NDNH. For more information on the strengths and limitations of the NDNH and WIPS data, see section B of the technical appendix.

The data coverage of America's Promise participants is limited by the NDNH data deletion schedule, which requires all NDNH data be deleted from the database no later than 24 months after entry (Tollestrup, 2019). This means the snapshot of the NDNH data, which was determined by the timing of our data collection, is not the same across sample members. Our NDNH data coverage begins in calendar quarter 2018 Q1 for participants who enrolled in America's Promise by calendar year 2019 and in calendar quarter 2018 Q3 for participants who enrolled in calendar year 2020 Q1 and Q2. NDNH data for all participants was collected through calendar quarter 2022 Q3. For example, for a participant who enrolled in an America's Promise program in the third calendar quarter of 2017 (PY2017Q1), we were only able to collect earnings and employment data which started in the second quarter after they enrolled in an America's Promise program. Exhibit III.2 shows the data availability by quarter relative to program enrollment for each of the program quarters in the outcomes study (see Appendix Exhibit A.3 for the share of America's Promise participants represented in each follow-up period).

Exhibit III.2. National Directory of New Hires data coverage by quarter relative to entrance
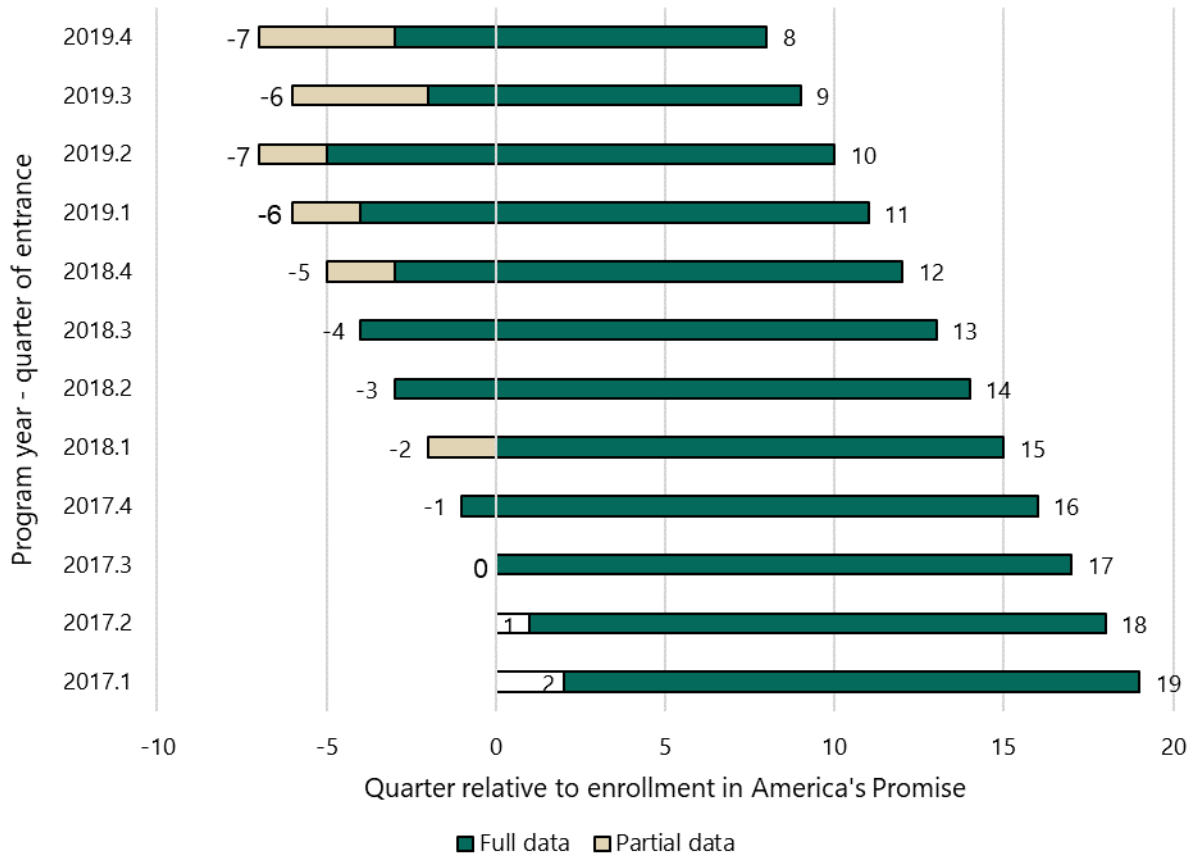
Note: Based on NDNH data collected by the study team between October 2020 and February 2023. The green bars show the quarters for which data is available for each program year – quarter. Full coverage is defined as data collected for at least 96 percent of the final sample. Partial coverage is defined as data collected for at least 75 percent but less than 96 percent of the sample. For a full description of the data requests and coverage, see Appendix Section B.

The COVID-19 pandemic occurred during the period covered by the outcomes study. The U.S. unemployment rate sharply rose following the onset of the pandemic (March 2020), increasing from 3.8 percent in the first quarter of 2020 to 13 percent in the second quarter of 2020 (Smith et al. 2021). The unemployment rate steadily declined after the second quarter of 2020 but did not return to pre-pandemic levels until the second quarter of 2022, according to the Bureau of Labor Statistics (Edwards et al. 2022; Essien et al. 2023). Participants experienced the pandemic and the associated labor market impacts at different quarters relative to program entry. When relevant, the program and labor market experiences of America's Promise participants therefore must be interpreted in the context of the COVID-19 pandemic and the period that followed. As we present results, we discuss which were likely influenced by the COVID-19 pandemic.

Outcomes are presented for two different samples. Of the 25,779 America's Promise participants who enrolled in either Program Year 2017, 2018, or 2019, we limit analysis of program completion and credential rates to the 18,589 people who exited an America's Promise program for whom we have data

on their training program.[12] This ensures that we are not including anyone who enrolled in the program but had not completed it yet. For labor market outcomes, analyses are limited to the 23,608 individuals who we were able to match to the NDNH database. Individuals were not submitted to the NDNH database if they had a missing social security number (SSN). Among individuals who were submitted, participants may not be matched either because the SSN provided was not valid or because they had no earnings or unemployment insurance during the period of data requested. Of the individuals we submitted, 96 percent were matched to the NDNH database. Because we are unable to differentiate which of the two reasons a participant is not matched to the NDNH database, we exclude all unmatched individuals. Participant characteristics are similar between the full sample shown in Chapter II and the two samples here (see Appendix Exhibit A.4 for characteristics and pre-program enrollment labor market outcomes specific to the outcomes study sample).

2. Outcomes measures

Exhibit III.3. lists the outcome measures and their data source and construction.

Exhibit III.3. Data sources and their definitions for outcome measures

Measure	Definition/construction	Data source
Received at least one credential	An indicator variable equal to 1 if a program participant received at least one of the following: • Secondary school diploma or equivalent • Occupational certificate or certification • Occupational license • Associate of Arts or Associate of Science degree • Bachelor of Arts or Bachelor of Science degree • Other recognized diploma, degree, or certificate	WIPS
Training completion	An indicator variable equal to 1 if a program participant completed an America's Promise training program	WIPS
Employment	A quarterly indicator variable equal to 1 if a program participant was recorded as having a positive earnings amount	NDNH
Earnings	Total quarterly earnings	NDNH
Receipt of unemployment insurance benefits	A quarterly indicator variable equal to 1 if a program participant was recorded as having a positive unemployment insurance benefit amount	NDNH

Note: The sample is limited to program participants enrolled in either Program Year 2017, 2018, or 2019. The WIPS sample is further limited to individuals who were no longer enrolled in an America's Promise program at the time of data collection.
NDNH = National Directory of New Hires (N=23,608) ; WIPS = Workforce Integrated Performance System (N=18,589).

We calculate the percentage of America's Promise participants who completed training and the percentage who received at least one credential through the America's Promise program. We also report these percentages separately by key subgroups: program year of enrollment, whether participants had an

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[12] One grantee did not report training completion data to the WIPS. This results in 4,651 participants being excluded from the analysis.

expected program completion[13] before the onset of the COVID-19 pandemic (before March 2020), the type of grantee institution the participant received services from, the sector of the training program the participant enrolled in, gender, employment status at start of program enrollment, and race and ethnicity. Appendix Exhibit A.5 lists the rationale for examining each subgroup.

3. Observing trends over time

To illustrate how earnings and employment evolve following America's Promise participation, we plot outcomes by quarter relative to program enrollment. This is estimated with the data available in each quarter, which is not balanced (as described in section III.A.1). This means that the sample of individuals analyzed in Q4 is not the same as the sample analyzed in Q5 because there are some individuals for whom we have data in one quarter and not the other. As a result, the changes we observe across follow-up periods could be due to changes in the composition of participants represented across relative quarters. To assess the extent to which changes in the composition of America's Promise participants across relative quarters influences changes in the measures, we also plot regression-adjusted averages and shares alongside unadjusted averages and shares. The regression-adjusted averages account for any changes in participant characteristics across relative quarters and adjusts for them. These averages reflect what we would see in that quarter if the background characteristics of participants (those listed in Exhibit II.3) were the same across quarters. Section C of the technical appendix describes the details of the regression-adjustment methods.

We also plot the earnings and employment measures separately by program year of entry, reporting only unadjusted averages and shares because the sample is more stable across follow-up periods within a program year of entry cohort. We present these program year plots to more easily examine how outcomes may have been influenced by the COVID-19 pandemic and to provide further context for the impact study sample. For the key subgroups, we report the adjusted share of participants employed and adjusted average quarterly earnings at the quarter of program enrollment, four quarters from enrollment, eight quarters from enrollment, and 12 quarters from enrollment. We use the adjusted shares so that comparisons are not biased by observable differences sample compositions.

B. Training completion and credential results

We uncovered the following in our analysis of completion and credential rates:

Most participants received at least one credential through the America's Promise program (75 percent) and completed their training program (80 percent) (Exhibit III.4). This is consistent with the fact that most America's Promise programs offered preparation for a certification or licensing exam (English et al. 2022a). The most common credential types were occupational certificates or certifications (56 percent) followed by occupational licensure (9 percent). Only 6 percent of participants received an associate degree and only 2 percent received a bachelor's degree. Completion rates are aligned with previous studies of training programs (Fortson et al. 2017). Both the high training completion and

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[13] Expected completion is estimated as the entrance date plus the median time to completion for a given program. A program was defined as an industry-grantee combination.

credential rates suggest that the America's Promise program could plausibly impact earnings and employment (Xu and Trimble 2016).

Exhibit III.4. The percentage of America's Promise participants who received a credential through America's Promise and the percentage who completed a training program

America's Promise participants	Count	Percentage
Total	18,589	100%
Completion of a training program	14,788	80%
Completion of a credential	14,004	75%
Occupational certificate or certification	10,351	56%
Occupational licensure	1,578	9%
Associate degree	1,133	6%
Bachelor's degree	350	2%
Secondary school diploma or equivalent	16	0%
Other recognized diploma, degree, or certificate	2,415	13%

Source: WIPS data.

Note: The sample are program participants enrolled in either Program Year 2017, 2018, or 2019 who were no longer enrolled in an America's Promise program at the time of data collection. Percentages reported are unadjusted.

Credential and program completion rates are high across key subgroups, but there are some observed differences (Exhibit III.5).

- There was a five percentage point decline in credential receipt and a four percentage point decline in program completion rates from the earliest program year of entry cohort (2017) to the most recent (2019). This may reflect impacts of the COVID-19 pandemic. It is also possible that some more recent program entrants had not finished the program at the time of analysis but would. This is an important distinction to note given the impact study focuses only on participants who enrolled in PY2019.

- Participants who were expected to complete training during COVID-19, based on average program completion time, had lower completion rates than those expected to complete prior to COVID-19 for both credentials (77%, compared to 80% for those expected to complete prior to COVID-19) and program completion (82% compared to 85%). Several factors might explain this, including COVID-19-induced changes to program features and to the types of participants who chose to enroll in an America's Promise training program (English et al. 2022a). This may also simply reflect less follow-up time to observe completion.

- Participants enrolled under a grantee that is a state workforce development agency had the highest program completion rates (87 percent) compared to participants enrolled under a grantee that is a college or university (80 percent) or participants enrolled under a grantee that is a local workforce development agency or nonprofit (78 percent). Credential rates were the lowest among participants enrolled under a grantee that is a state workforce development agency (46 percent) compared to participants enrolled under a grantee that is a college or university (79 percent) or local workforce development agency (75 percent).

- Participants enrolled in a health care training program had the highest credential and completion rates (84 percent and 88 percent, respectively) compared to other industries.

- Female participants had a larger credential rate (77 percent) than male participants (74 percent). This could be associated with gender differences in the industry of the training program (Spitzer et al. 2022).

- Incumbent workers were more likely to receive a credential (82 percent) and more likely to complete a training program (86 percent) compared to underemployed (76 percent and 81 percent, respectively) and unemployed workers (73 percent and 77 percent, respectively). This may reflect the training design of the training program for incumbent workers, which was either aligned with other participants or aligned to the specific needs of the employer partner (English et al. 2022a).

- White, non-Hispanic participants were most likely to receive a credential (79 percent compared to the lowest credential rate of 72 percent among Hispanic participants) and more likely to complete a training program (84 percent compared to the lowest completion rate of 73 percent among Black, non-Hispanic participants).

Exhibit III.5. The percentage of America's Promise participants who received a credential through America's Promise and the percentage who completed a training program, by program characteristics

Characteristic	Received at least one credential through America's Promise (Share)	Received at least one credential through America's Promise (N)	Completion of an America's Promise training program (Share)	Completion of an America's Promise training program (N)
Program year of enrollment	-	-	-	-
2017	77.2	6,714	81.0	6,714
2018	75.7	6,627	79.9	6,627
2019	72.5	5,248	77.2	5,248
Timing of service receipt relative to the onset of the COVID-19 pandemic[a]	-	-	-	-
Expected program completion before March 2020	79.7	14,386	85.2	14,386
Expected program completion after March 2020	76.6	1,481	82.3	1,481
Type of grantee institution	-	-	-	-
State workforce development agencies	45.9	988	87.4	988
Colleges and universities	79.4	8,688	79.8	8,688
Local workforce development agencies and nonprofits	74.6	8,913	78.4	8,913

Characteristic	Received at least one credential through America's Promise (Share)	Received at least one credential through America's Promise (N)	Completion of an America's Promise training program (Share)	Completion of an America's Promise training program (N)
Sector of training program	-	-	-	-
Advanced manufacturing	80.9	6,005	84.7	6,005
Health care	84.3	5,575	88.2	5,575
Information technology	80.6	3,328	85.2	3,328
Other	67.8	2,417	80.7	2,417
Gender	-	-	-	-
Female	77.2	8,863	79.2	8,863
Male	73.7	9,632	80.0	9,632
Employment status at enrollment	-	-	-	-
Incumbent worker	82.1	2,250	86.3	2,250
Underemployed	75.8	6,804	81.0	6,804
Unemployed	73.4	9,535	77.0	9,535
Race and ethnicity	-	-	-	-
Hispanic	71.7	2,371	82.1	2,371
White, non-Hispanic	78.5	8,645	83.9	8,645
Black, non-Hispanic	73.4	5,092	72.7	5,092
Other race, non-Hispanic	72.9	1,471	77.2	1,471

Source: Data are from the Workforce Integrated Performance System.

Note: The sample are program participants enrolled in either Program Year 2017, 2018, or 2019 who were no longer enrolled in an America's Promise program at the time of data collection and for whom we have characteristic data in each key subgroup. Percentages reported are unadjusted. Expected completion dates are estimated as the median time to program completion for a given training industry and grantee among participants who complete training at any point in the data.

[a] Expected completion is estimated as the entrance date plus the median time to completion for a given program.

C. Employment and earnings experience

Employment

The employment rate for America's Promise participants in our sample declined leading up to enrollment but increased during the first four quarters after enrollment (Exhibit III.6). The decline in employment leading up to program entry is consistent with participants enrolling in an America's Promise program because of a job loss or loss of earnings, a common finding in the workforce training literature (Heinrich et al. 2021). Employment rates rose immediately following enrollment, peaking at eight percentage points higher than the quarter of enrollment in the fourth quarter (70.6 percent to 78.3 percent) —or nine to 12 months—after program enrollment. The immediate increase in employment following enrollment could reflect two key aspects of the America's Promise program. First, for many participants, available training

offerings prioritized work-based training, and thus enrollment coincides with employment by construction. Second, many grantees (18 out of 23) offered short-term, classroom-based training programs (ranging from seven days to 14 weeks), so employment and earnings would not be depressed by participants enrolling in longer term training offerings (English et al. 2022a). The unadjusted and adjusted averages depict a similar story, suggesting that trends are not driven by changes in sample composition.

Exhibit III.6. Employment rate of America's Promise participants by quarter relative to entrance
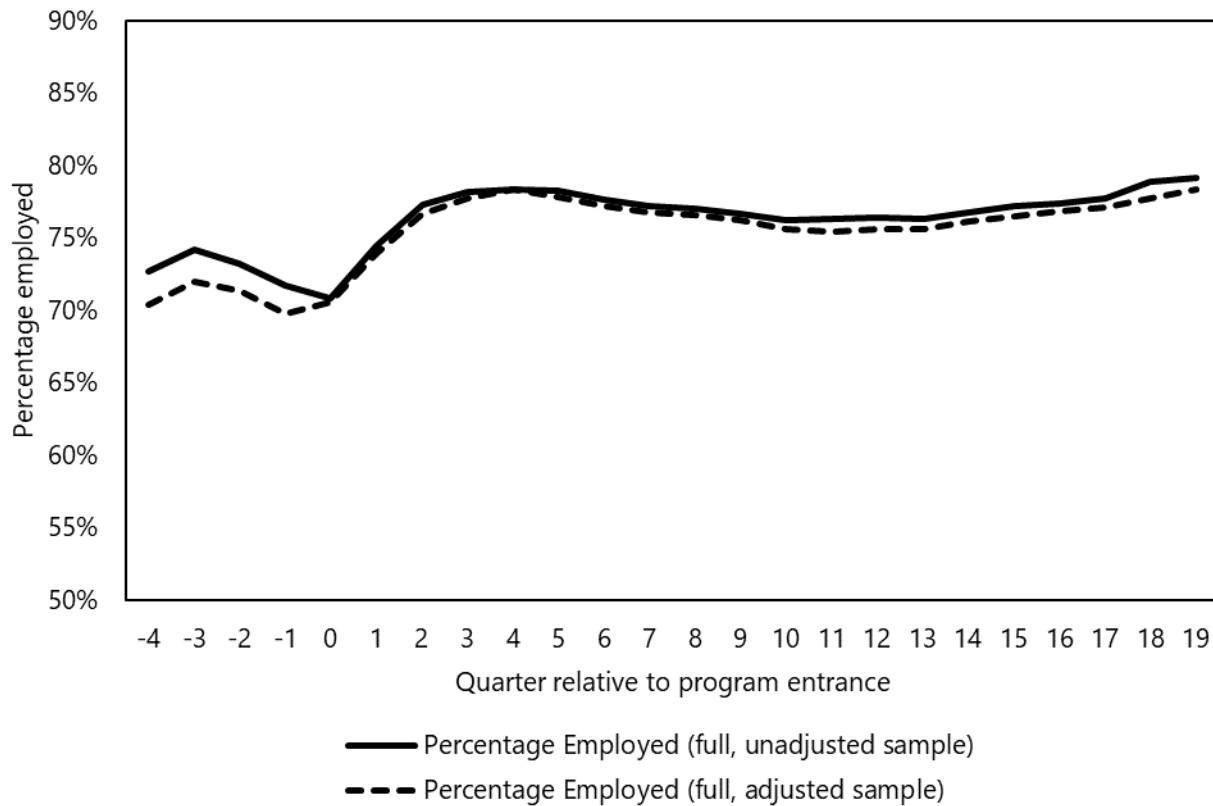
Source: Data are from WIPS and NDNH.

Note: The sample are program participants enrolled in either Program Year 2017, 2018, or 2019 who were matched to the NDNH data to observe their labor market measures. The total sample size is 23,608. Adjusted means use regression adjustment to control for the changing demographic characteristics of the sample. NDNH data coverage includes calendar quarter 2018 Q1 through calendar quarter 2022 Q3.

NDNH = National Directory of New Hires; WIPS = Workforce Integrated Performance System.

The observed decline in employment following the initial sharp increase after enrollment is likely associated with the onset of the COVID-19 pandemic. This is apparent when looking at the development of employment separately by program year of enrollment (Exhibit III.7). For the PY2017 and PY2018 cohorts, the employment rates were observed to rise immediately following program enrollment before declining right around the time that each of these cohorts experienced the onset of the COVID-19 pandemic. Employment begins to rebound for both cohorts as the economy begins to recover jobs in 2021 (U.S. Bureau of Labor Statistics, 2023). In contrast, the employment rate for the PY2019 cohort participants, who enrolled just before or during the pandemic, increases immediately after enrollment and continues to increase throughout the follow-up period. We observe a shallower increase in employment

after program enrollment for this cohort compared to the 2017 and 2018 cohorts. The initial sharp rise we expect we would have observed is dampened by the pandemic. This is unlikely to be explained by cohort composition, given that the PY2019 cohort shares many similarities with the other two cohorts, including the number of participants and individual characteristics (Exhibit II.3). It is also worth noting that employment levels are similar for each cohort in the third quarter of 2022 – 79.1 percent for program year 2017, 77 percent for program year 2018, and 78.1 percent for program year 2019. This is the last quarter for which employment is observed. Employment levels had also returned to pre-pandemic levels (Essien et al. 2023).

Exhibit III.7. Employment rate of America's Promise participants by quarter relative to entrance and program year

Source: NDNH matched to WIPS data.

Note: The sample are program participants enrolled in either Program Year 2017, 2018, or 2019 who were matched to the NDNH data to observe their labor market measures. The total sample size across all program year cohorts is 23,608, and is 7,719 for program year 2019, 8,288 for program year 2018, and 7,601 for program year 2017. Stars indicate the onset of the COVID-19 pandemic. NDNH data coverage includes calendar quarter 2018 Q1 through calendar quarter 2022 Q3.

NDNH = National Directory of New Hires; WIPS = Workforce Integrated Performance System.

Employment by subgroup

The employment trends for America's Promise participants were observed to be mostly similar across key subgroups (Exhibit III.8), generally increasing from quarter of enrollment to quarter 4 before experiencing a small decline among most of the subgroups examined. The employment rate among participants who self-reported being unemployed at the start of program entry increased considerably, from 53 percent at

the quarter of enrollment to 72 percent at the fourth quarter after program enrollment.[14] This suggests the America's Promise program may have been particularly helpful for individuals without employment at the start. It is also notable that employment levels are higher for participants enrolled under a grantee that is a state workforce development agency compared to participants enrolled under a grantee that is a college or university, local workforce development agency, or nonprofit.

Exhibit III.8. Employment rate of America's Promise participants by quarter relative to entrance and subgroup

Subgroup	Q0	N	Q4	N	Q8	N	Q12	N
Type of grantee institution	-	-	-	-	-	-	-	-
State workforce development agencies	79.6	952	86.0	995	82.1	995	82.2	817
Colleges and universities	71.9	7,557	83.7	9,086	81.6	9,067	78.4	7,345
Local workforce development agencies and nonprofits	69.3	11,730	71.8	13,491	72.4	13,223	74.3	9,768
Sector of training program	-	-	-	-	-	-	-	-
Advanced manufacturing	74.0	9,297	78.2	10,552	77.9	10,519	76.4	8,155
Health care	69.9	4,881	83.1	5,842	79.1	5,578	73.9	4,594
Information technology	67.2	2,689	74.3	3,284	73.7	3,294	75.0	2,327
Other	67.6	2,148	75.1	2,463	74.2	2,463	72.3	1,841
Gender	-	-	-	-	-	-	-	-
Female	71.0	9,779	78.7	11,584	77.9	11,544	77.1	9,126
Male	70.6	10,359	78.0	11,879	76.2	11,632	75.8	8,715
Self-reported employment status at enrollment	-	-	-	-	-	-	-	-
Unemployed	53.0	10,725	71.8	12,522	71.7	12,389	71.8	9,464
Employed	90.1	9,514	85.8	11,050	83.4	10,896	82.0	8,466
Race and ethnicity	-	-	-	-	-	-	-	-
Hispanic	71.7	2,984	78.2	3,347	76.7	3,340	77.0	2,667
White, non-Hispanic	69.2	9,283	78.5	10,950	78.1	10,706	76.8	8,389
Black, non-Hispanic	74.2	5,208	79.2	6,125	76.7	6,110	75.8	4,468
Other race, non-Hispanic	68.5	2,764	76.8	3,150	75.2	3,129	76.0	2,406

Source: Data are from WIPS and NDNH.

Note: The sample are program participants enrolled in either Program Year 2017, 2018, or 2019 who were matched to the NDNH data to observe their labor market measures and for whom we have characteristic data in each key subgroup. Expected completion dates are estimated as the median time to program completion for a given training industry and grantee among participants who complete training at any point in the data. Expected completion relative to COVID-19 was excluded due to data availability.

NDNH = National Directory of New Hires; Q = quarter; WIPS = Workforce Integrated Performance System.

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[14] The employment rate of individuals who self-reported being unemployed at program entry is 53 percent in the quarter of entry, estimated using the NDNH data. This may reflect participants being employed at other points in a quarter or participants having part-time, unstable, or undesired work that they do not consider to be employment.

Unemployment insurance benefits

Examining the share of America's Promise participants receiving unemployment insurance benefits is an alternative, and indirect, way to examine employment.

The share of America's Promise participants receiving unemployment insurance benefits increased leading up to enrollment, then declined immediately after enrollment, and then increased again before declining (Exhibit III.9). Like employment, the pattern for those receiving unemployment insurance benefits follows what we might expect given the initial job losses induced by the COVID-19 pandemic and the subsequent recovery. This is most apparent when examining program year of enrollment cohorts separately (Exhibit III.10). The share of America's Promise participants receiving unemployment insurance benefits increased sharply following the onset of the COVID-19 pandemic before sharply declining during the recovery period for all program year cohorts.

Exhibit III.9. The percentage of America's Promise participants receiving unemployment insurance (UI) benefits

Source: Data are from WIPS and NDNH.

Note: The sample are program participants enrolled in either Program Year 2017, 2018, or 2019 who were matched to the NDNH data to observe their labor market measures. The total sample size is 23,608. Adjusted means use regression adjustment to control for the changing demographic characteristics of the sample. NDNH data coverage includes calendar quarter 2018 Q1 through calendar quarter 2022 Q3.

Exhibit III.10. The percentage of America's Promise participants receiving unemployment insurance (UI) benefits, by program year of enrollment
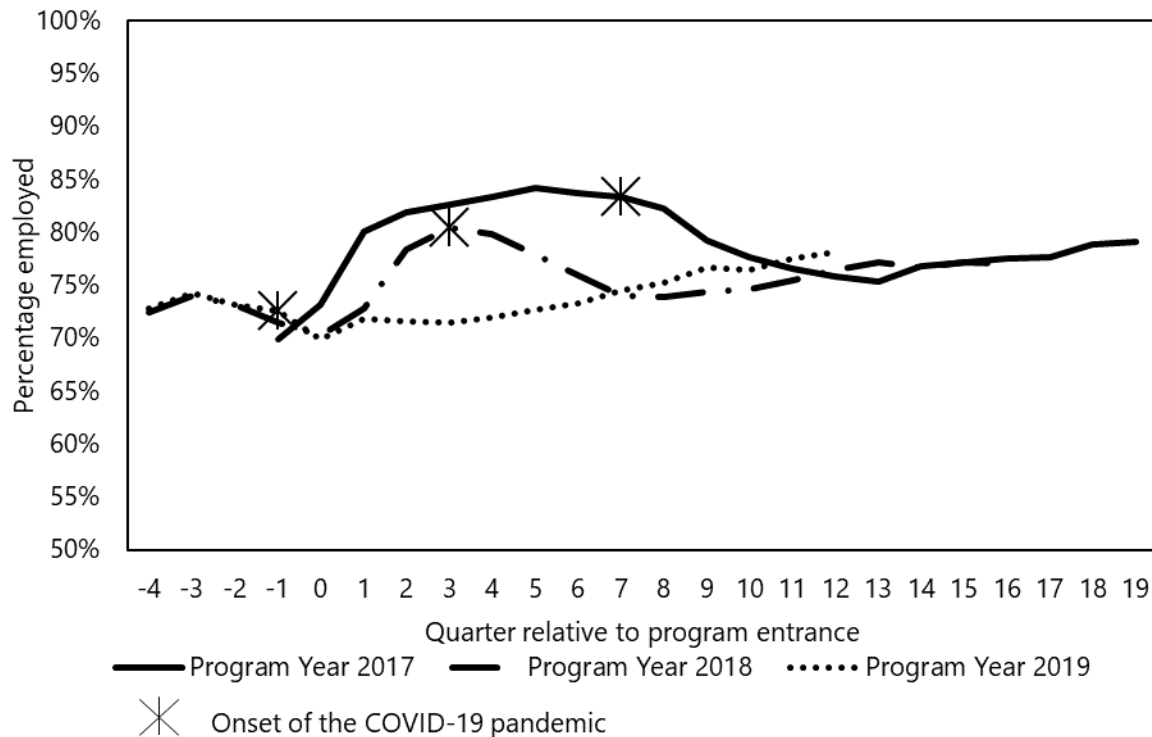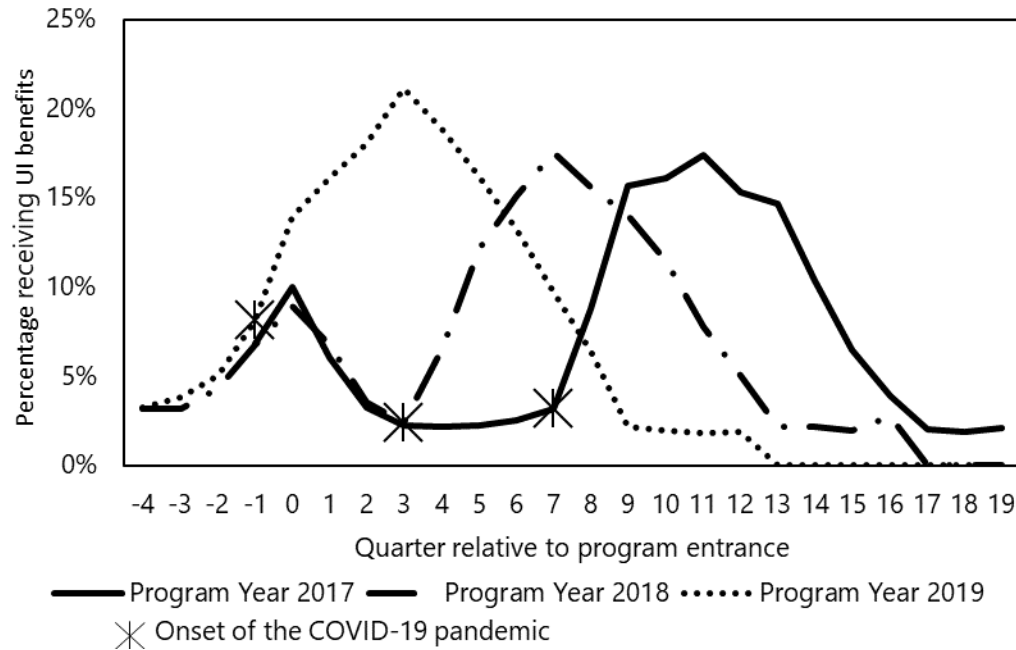

Source: NDNH data matched to WIPS data.

Note: The sample are program participants enrolled in either Program Year 2017, 2018, or 2019 who were matched to the NDNH data to observe their labor market measures. The total sample size across all program year cohorts is 23,608, and is 7,719 for program year 2019, 8,288 for program year 2018, and 7,601 for program year 2017. Stars indicate the onset of the COVID-19 pandemic.

Earnings

Average quarterly earnings for our sample of America's Promise participants declined leading up to enrollment and then increased after enrollment (Exhibit III.11). By the fourth quarter post-enrollment, participants were making approximately $2,500 more per quarter, and by the 16th quarter following enrollment, participants' earnings had increased by approximately $5,000 per quarter, relative to the quarter of enrollment. As with employment, this likely reflects both employment opportunities through the America's Promise programs and the short timing of classroom-based learning programs, as described in the implementation study (English et al. 2022a).

There is no decline in earnings that coincides with the decline in employment around the fourth quarter after program enrollment, although the rate of the earnings increase does appear to slow a bit (Exhibit III.11). This suggests that average quarterly earnings for participants who did not experience a job loss increased at least enough to offset the loss in earnings among participants who did experience a job loss during this period. This underscores that not all America's Promise participants had the same earnings and employment experience, and differential experiences are masked when observing averages. Exhibit III.12 demonstrates this point by breaking out earnings trajectories by program year of enrollment. For PY2017 and PY2018, earnings increases begin to slow around the onset of the COVID-19 pandemic. Earnings for PY2019 participants continue to increase.

Exhibit III.11. Average quarterly earnings of America's Promise participants
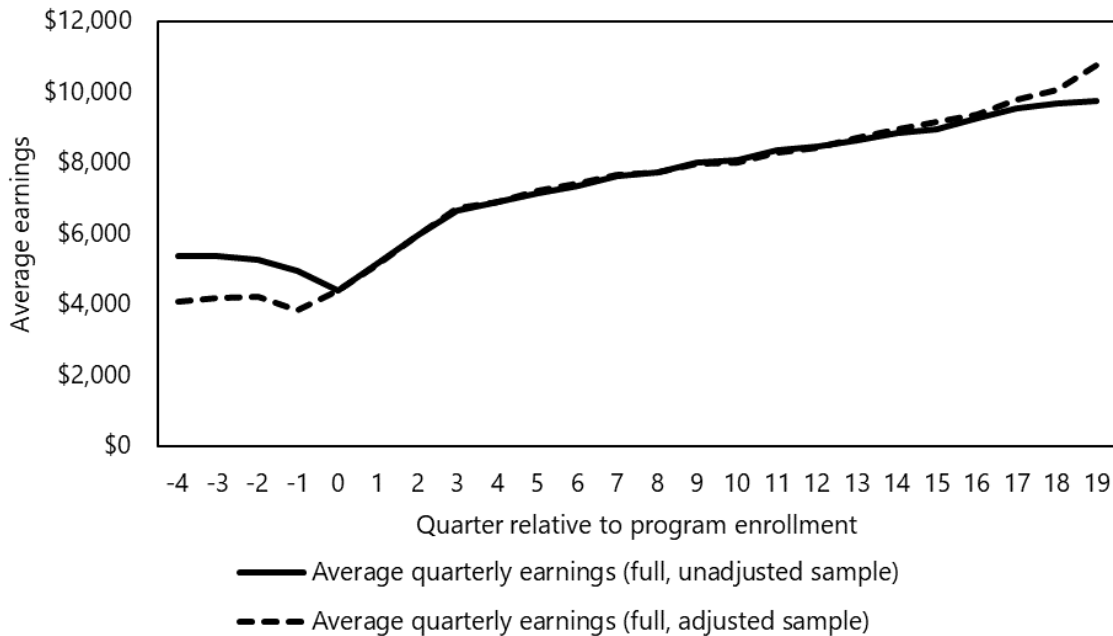
Source: Data are from WIPS and NDNH.

Note: The sample are program participants enrolled in either Program Year 2017, 2018, or 2019 who were matched to the NDNH data to observe their labor market measures. The total sample size is 23,608. Adjusted means use regression adjustment to control for the changing demographic characteristics of the sample. NDNH data coverage includes calendar quarter 2018 Q1 through calendar quarter 2022 Q3.

NDNH = National Directory of New Hires; WIPS = Workforce Integrated Performance System.

Exhibit III.12. Average quarterly earnings of America's Promise participants, by program year of enrollment

Source: NDNH data matched to WIPS data

Note: The sample are program participants enrolled in either Program Year 2017, 2018, or 2019 who were matched to the NDNH data to observe their labor market measures. The total sample size across all program year cohorts is 23,608, and is 7,719

for program year 2019, 8,288 for program year 2018, and 7,601 for program year 2017. Stars indicate the onset of the COVID-19 pandemic.

NDNH = National Directory of New Hires; WIPS = Workforce Integrated Performance System.

Earnings by subgroup

Average quarterly earnings for America's Promise participants gradually increase from the start of enrollment across subgroups (Exhibit III.13). Participants enrolled under a grantee that is a college or university experience lower earnings in Q0 ($3,466 compared to $4,436 for local workforce agencies and nonprofits or $5,570 for state workforce development agencies), likely reflecting the fact that (a) many of them were active students already enrolled in their institutions, so they may be more likely to be part-time and (b) they were less likely to receive paid training opportunities.[15] Participants enrolled under a grantee that is a college or university caught up to the others in earnings by the fourth quarter following enrollment. Examining other subgroups, participants enrolled in a health care program, female participants, participants unemployed at program entrance, and participants of other race were observed to experience relatively larger increases in earnings from the quarter of program entrance to the 12th quarter from program entrance compared to their counterparts, although this could be associated with if the training programs offer paid opportunities. Participants enrolled in a health care program experienced a 168 percent increase in earnings compared to a 124 percent increase for participants enrolled in an information technology program (the group experiencing the second highest increase among the sector of training groups). Female participants experienced a 104 percent increase in earnings compared to a 98 percent increase for male participants. Participants unemployed at program entrance experienced a 233 percent increase in earnings compared to a 52 percent increase for participants employed at program entrance. Participants of other race experienced a 122 percent increase in earnings compared to a 112 percent increase among White, non-Hispanic participants (the group experiencing the second highest increase among racial groups).

Exhibit III.13. Average quarterly earnings of America's Promise participants by quarter relative to entrance and subgroup

Subgroup	Q0	N	Q4	N	Q8	N	Q12	N
Type of grantee institution	-	-	-	-	-	-	-	-
State workforce development agencies	$5,570	952	$8,035	995	$8,304	995	$9,481	817
Colleges and universities	$3,466	7,557	$8,707	9,086	$9,349	9,067	$9,842	7,345
Local workforce development agencies and nonprofits	$4,436	11,730	$5,230	13,491	$6,305	13,223	$7,144	9,768
Sector of training program	-	-	-	-	-	-	-	-
Advanced manufacturing	$4,809	9,297	$6,881	10,552	$7,739	10,519	$8,366	8,155
Health care	$3,071	4,881	$6,736	5,842	$7,482	5,578	$8,216	4,594
Information technology	$3,691	2,689	$6,483	3,284	$7,496	3,294	$8,279	2,327
Other	$4,006	2,148	$6,452	2,463	$7,342	2,463	$7,767	1,841
Gender	-	-	-	-	-	-	-	-
Female	$4,511	9,779	$7,230	11,584	$8,263	11,544	$9,203	9,126

[15] Based on conversations with grantee staff.

Subgroup	Q0	N	Q4	N	Q8	N	Q12	N
Male	$3,766	10,359	$6,159	11,879	$6,881	11,632	$7,471	8,715
Self-reported employment status at enrollment	-	-	-	-	-	-	-	-
Unemployed	$2,162	10,725	$5,550	12,522	$6,474	12,389	$7,197	9,464
Employed	$6,342	9,514	$7,979	11,050	$8,829	10,896	$9,650	8,466
Race and ethnicity	-	-	-	-	-	-	-	-
Hispanic	$4,296	2,984	$6,708	3,347	$7,545	3,340	$8,231	2,667
White, non-Hispanic	$4,177	9,283	$7,058	10,950	$8,080	10,706	$8,837	8,389
Black, non-Hispanic	$4,125	5,208	$6,227	6,125	$6,847	6,110	$7,512	4,468
Other race, non-Hispanic	$3,778	2,764	$6,281	3,150	$7,308	3,129	$8,378	2,406

Source: Data are from WIPS and NDNH.

Note: The sample are program participants enrolled in either Program Year 2017, 2018, or 2019 who were matched to the NDNH data to observe their labor market measures and for whom we have characteristic data in each key subgroup. Expected completion dates are estimated as the median time to program completion for a given training industry and grantee among participants who complete training at any point in the data. Expected completion relative to COVID-19 was excluded due to data availability.

NDNH = National Directory of New Hires; Q = quarter; WIPS = Workforce Integrated Performance System.
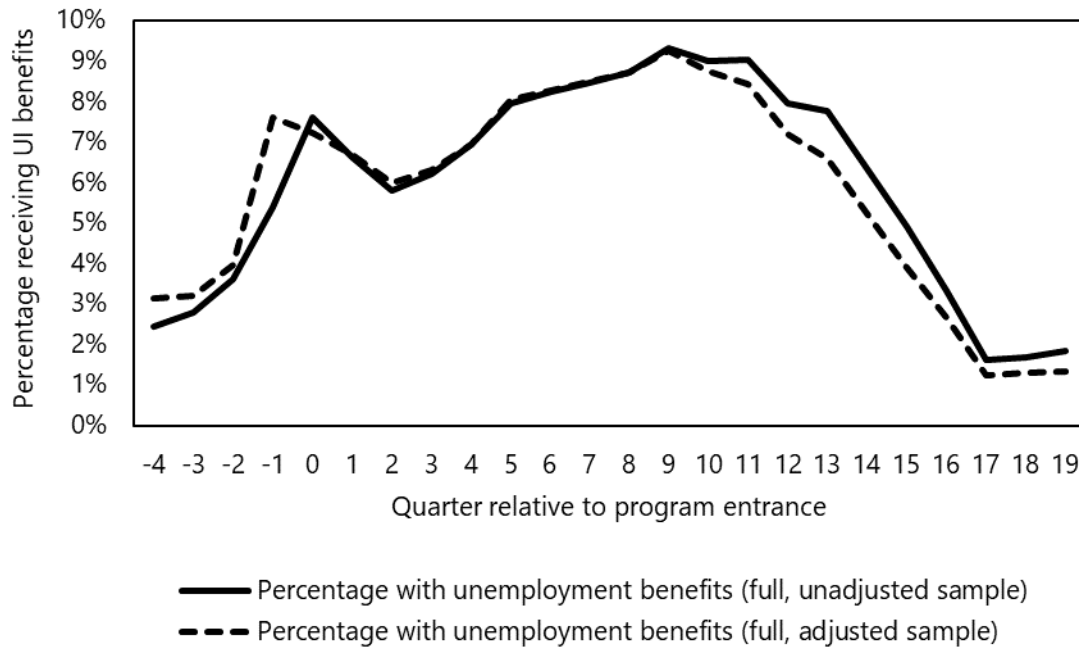
IV. Impact Study Design

The impact study component of the America's Promise evaluation provides estimates of the impact of participation in an America's Promise program using a matched comparison design. Specifically, we focus on how participating in America's Promise changes the employment and earnings of participants relative to what we would expect them to have been in the absence of the program. To determine what we would expect earnings and employment to be in the absence of the program, we identified a matched comparison group of similar individuals who did not receive America's Promise services but received limited employment services.

We explored conducting a randomized controlled trial (RCT) to estimate the impact of the America's Promise program. However, based on information collected through clarifying calls with the grantees in summer 2017, the study team determined in collaboration with DOL that random assignment would not be feasible.[16] Because we could not pursue random assignment, we worked to identify a comparison group for America's Promise participants. The America's Promise grants were designed to serve unemployed, underemployed, and incumbent workers seeking assistance, including education and training, to improve their labor market outcomes (DOL 2016). Given this focus, we identified Wagner-Peyser participants as the comparison group for the impact study. Like America's Promise participants, individuals enrolled in Wagner-Peyser looked to the workforce system to receive services to help them enter employment or increase their earnings. As described further in this chapter, the America's Promise impact study contrasts free education and training services coupled with additional supports to basic, light-touch career services provided through the Wagner-Peyser program.

Our matched comparison design identifies a group of individuals, Wagner-Peyser participants, who were also looking for employments services and are similar to America's Promise participants in demographic characteristics and pre-program labor market outcomes; therefore, it provides evidence of what the counterfactual earnings of America's Promise participants might have been in the absence of the program. Due to data availability, the impact study is limited to participants in PY2019 served by 12 partnerships in the 9 states in which we were able to collect data.

This chapter first describes the grantees included in the impact study and presents information on components of their America's Promise models. It then provides details on the sample of participants included in the impact study. The chapter then describes the Wagner-Peyser program, including services available. Subsection E summarizes methods for identifying the comparison group and subsection F describes sample balance. The next two subsections describe methods for estimating impacts and characterize study outcomes. Finally, subsection I describes the limitations of the impact methods.

A. Selecting grantees for the impact study

The set of states that could be included in the America's Promise impact analysis depended on obtaining the cooperation of state workforce agencies. Linking participant data from the WIPS with administrative

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[16] The primary reason that random assignment was not feasible was that programs were not sufficiently over-subscribed. Therefore, implementing random assignment would have sharply decreased the number of participants that could be served.

earnings records from the NDNH requires participants' personally identifiable information. For America's Promise participants, grantees are required to request an SSN from each participant. We used this data to link the WIPS and NDNH data. However, SSNs are not available for members of the impact study comparison group because the WIPS data includes only identifiers used within the workforce system. We therefore conducted outreach to state agencies to obtain crosswalks between comparison group members' WIPS identifiers and their names and SSNs. For a detailed description of our state outreach procedure, see section D of the technical appendix.

In total, nine of the 28 states where America's Promise program participants reside agreed to provide the study team with data: Florida, Kansas, Michigan, Oregon, Rhode Island, Tennessee, Virginia, Washington, and West Virginia. The nine states included 12 of the 23 partnerships—10 had a grantee located in state and two served some individuals residing in the participating states but had a grantee in another state. Our main impact analyses include information on the individuals who were served by these partnerships and who were also residents of the states participating in our study. Our analyses are further limited by missing data for Virginia following 2021 Q3. We focus partnership-specific impacts on the nine partnerships with a grantee in a participating state with full data, because individuals residing in a state different from that of a grantee are likely not representative of individuals served by the partnership.

B.   Who are the impact study partnerships

Like the universe of America's Promise partnerships, those included in the impact study varied across multiple dimensions, including their grantee organization types, industries served, training approaches, and populations of interest. The 12 grantees included in the impact study are diverse with respect to their partnership structure and size (Exhibit IV.1). The impact study partnerships were led by workforce development boards, agencies, or organizations (eight partnerships) and education and training providers (four partnerships). Most impact study partnerships included a large number of partners, according to the grantee survey, with the typical partnership having 36 partner organizations other than the grantee (not shown). The 12 partnerships served between 37 and 2,198 individuals within our study states in PY2019, according to the WIPS data. But most programs were relatively small, with half including fewer than 150 participants and all but one including less than 600 participants in the impact study states and time period.

Consistent with the full set of 23 partnerships, most partnerships in the impact study provided training in the fields of advanced manufacturing, health care, and IT (Exhibit IV.1). Six of the 12 partnerships focused on a single sector, two focused on two sectors, and the remainder focused on three or more sectors.

All impact study partnerships offered a range of education and training services, including classroom-based occupational skills training, higher education courses aligned with degrees, and work-based learning, regardless of their industry focus. However, as shown in Exhibit IV.1, the average training length varied across the partnerships, with some trainings taking as little as six weeks and others taking up to a year. As outlined in the FOA for the grants, all partnerships focused on serving unemployed and underemployed workers through the grants (DOL 2016). America's Promise partnerships could also offer incumbent worker training, but no more than 25 percent of participants could be incumbent workers (DOL 2016). All impact study partnerships identified incumbent workers as a population of interest in the grantee survey. However, they reported wide variation in the number of participants they hoped to serve

through incumbent worker training, with enrollment targets ranging from 12 to 344 participants. As shown in Exhibit IV.1, most partnerships (11 of 12 partnerships) also sought to reach additional populations of interest, frequently underserved or underrepresented groups. For instance, IT- and advancement manufacturing-focused partnerships often identified women as a population of interest. Across sectors, partnerships also aimed to serve racial and ethnic minorities and English-language learners.

Exhibit IV.1. Impact study partnership characteristics

Grantee type	PY2019 enrollment in study states	Target sectors	Population(s) of interest	Types of work-based learning offered	Average training program length
Education/ training	426	Health care	Unemployed workers, underemployed workers, incumbent workers, low-income individuals, military veterans and their spouses, English-language learners	Unpaid work experience/internships, on-the-job training, registered apprenticeship	340 hours
Workforce	206	Health care	Unemployed workers, underemployed workers, incumbent workers, low-income individuals, military veterans and their spouses, minorities, English- language learners, criminal justice-involved individuals, women, young adults, recent high school graduates, immigrants and refugees, individuals with disabilities	Paid work experience/internships, unpaid work experience/internships, on-the-job training, registered apprenticeship	12 months
Workforce	557	Advanced manufacturing	Unemployed workers, underemployed workers, incumbent workers, low-income individuals, minorities, criminal justice-involved individuals, women, young adults, recent high school graduates	Paid work experience/internships, registered apprenticeship	16 weeks

Grantee type	PY2019 enrollment in study states	Target sectors	Population(s) of interest	Types of work-based learning offered	Average training program length
Workforce	180	Advanced manufacturing	Unemployed workers, underemployed workers	On-the-job training, registered apprenticeship	16 weeks
Education/ training	89	Advanced manufacturing	Underemployed workers, incumbent workers, low-income individuals, military veterans and their spouses, minorities, criminal justice-involved individuals, women, young adults	Paid work experience/internships, on-the-job training, registered apprenticeship	6 weeks
Workforce	99	Advanced manufacturing Health care IT Other	Unemployed workers, underemployed workers, incumbent workers, low-income individuals, minorities	Paid work experience/internships, on-the-job training, registered apprenticeship	6 weeks
Workforce	2,198	Advanced manufacturing IT Other	Unemployed workers, underemployed workers, low-income individuals, military veterans and their spouses, minorities, individuals with a high school degree or less	Paid work experience/internships, on-the-job training	6 weeks

Grantee type	PY2019 enrollment in study states	Target sectors	Population(s) of interest	Types of work-based learning offered	Average training program length
Workforce	272	Advanced manufacturing Health care IT	Unemployed workers, underemployed workers, incumbent workers, military veterans and their spouses, English-language learners, criminal justice-involved individuals, individuals with disabilities, individuals over income for federal job training programs or federal aid	Paid work experience/internships, unpaid work experience/internships, on-the-job training, registered apprenticeship	9 months
Education/ training	37	IT Health care	Unemployed workers, underemployed workers, incumbent workers, low-income individuals, military veterans and their spouses, minorities, women, young adults, immigrants and refugees, near college graduate or college graduate	Paid work experience/internships, unpaid work experience/internships, on-the-job training	3 months

Grantee type	PY2019 enrollment in study states	Target sectors	Population(s) of interest	Types of work-based learning offered	Average training program length
Education/ training	133	Advanced manufacturing Health care	Unemployed workers, underemployed workers, incumbent workers, low-income individuals, military veterans and their spouses, minorities, women, young adults, recent high school graduates	On-the-job training	12 weeks
Workforce	132	Advanced manufacturing Other	Unemployed workers, underemployed workers, incumbent workers, low-income individuals, military veterans and their spouses, young adults, recent high school graduates	On-the-job training	8 weeks
Workforce	129	IT	Unemployed workers, underemployed workers, incumbent workers, low-income individuals, military veterans and their spouses, women, young adults	Paid work experience/internships, on-the-job training	3 months

Source: Workforce Integrated Performance System data (for study enrollment), grantee survey.

IT = Information technology; PY = Program Year.

As described during virtual site visits and in grantee survey responses, the impact study partnerships considered different factors when recruiting and enrolling participants for America's Promise.

- **Partnerships often relied on referrals from other programs to recruit participants.** All 12 impact study partnerships indicated in the grantee survey that their primacy recruitment methods included referrals from education/training providers, workforce partners, or employers. In some instances, education/training providers often referred existing students to the America's Promise partnership to see if they could qualify for training funding through the grant. In the case of employer referrals, some employers would refer potential hires to the America's Partnership to enroll them in work-based learning offerings available through the grant. For example, one partnership worked closely with an employer in which interested individuals applied for grant-funded on-the-job training through an employer's website.

- **To qualify for America's Promise, partnerships required participants to have specific education experience and/or for participants to achieve certain scores on intake assessments.** Seven of the 12 impact study partnerships required prospective participants to achieve specific scores on intake assessments prior to enrollment. Seven partnerships required prospective participants to have received their high school diploma or equivalent. Other considerations included completion of pre-requisite courses (four partnership), prior academic performance (three partnerships), and prior work experience (two partnerships). All partnerships considered prospective participants' interest in training prior to enrollment.

Once enrolled in training, the impact study partnerships, as identified in grantee survey responses, varied in terms of the other services they provided to America's Promise participants to support their successful training completion and job placement.

- **Nine of the 12 partnerships provided academic support to participants while enrolled in education and training offerings.** These supports typically took the form of individualized tutoring. In addition to academic support, all 12 partnerships offered ongoing case management services to identify participant needs while in education and training and to make referrals for additional services, as necessary.

- **All 12 partnerships offered some form of job preparation activities.** These services varied across partnerships and often included mock interviewing, resume assistance, and soft skills training. Six of the 12 partnerships employed dedicated job developers or equivalents to help connect participants to employment opportunities in the targeted industries.

- **In addition to services supporting participants through training and job placement, all impact study partnerships offered a range of additional supportive services.** All partnerships offered financial support for training-related costs, such as school supplies and certification testing costs. In addition to these training-related costs, some partnerships offered financial support for other services that supported participants' ability to participate in training. In particular, 10 partnerships offered assistance for transportation costs and six partnerships offered child care assistance.

The implementation challenges faced by the impact study partnerships reflect those identified by all America's Promise partnerships. Commonly reported challenges, identified through the grantee survey,

among impact study partnerships included recruiting participants, placing participants in employment, engaging and retaining employer partnerships, limited funding for supportive services, and staffing.

C.   Impact study participants

America's Promise participants represent a group of individuals who self-enrolled in training programs to increase their employability and earnings. The training programs were geared to individuals with a solid educational foundation (DOL 2016).

This impact study includes all 4,402 participants from the 12 impact study partnerships who enrolled in America's Promise between July 2019 and June 2020 (PY2019) who were able to match the NDNH data. In this section, we describe the impact study sample and how their characteristics compare to the overall sample of America's Promise participants. Understanding the characteristics of the study sample supports the interpretation of results and informs our understanding of who is described in the impact study sample. Understanding how this sample compares to the overall group of America's Promise participants informs the degree to which impact study results are likely to generalize to the full population. To protect the privacy of partnerships, we use numerical identifiers that are not linked to the previously reported partnership characteristics.

Because the partnerships varied in size and presence in our impact study states, the grantees contributed very different samples to the impact study (Exhibit IV.2). In particular, one partnership contributes 49 percent of the study sample. In contrast, three partnerships contribute 2 percent or less. As a result, our impact estimates disproportionally represent the impact of the larger partnerships in the study.

Exhibit IV.2. Impact study sample size and share, by partnership

Partnership	Impact study sample	Share
1	197	5%
2	131	3%
3	120	3%
4	182	4%
5	2,161	49%
6	561	13%
7	434	10%
8	105	2%
9	127	3%
10	93	2%
11	24	1%
12	267	6%

Source: National Directory of New Hires data matched to Workforce Integrated Performance System data.

Exhibit IV.3 presents the characteristics of America's Promise participants included in the impact study. To understand how representative the impact study sample is of America's Promise participants overall, the exhibit also compares this to other America's Promise participants not in the impact study who we were

able to match to the NDNH data.[17] Individuals not in the impact study were primarily excluded because they did not enroll in program year 2019 (73 percent) or they did not enroll in a study state (13 percent). Note that impact study group is not the analytic sample but rather the larger study sample from which the final intervention group is selected through matching. Appendix Exhibit A.10 shows the characteristics of the full group of Wagner-Peyser participants for the potential comparison group and the matched analytic sample. Relative to non-impact study participants, participants at impact study grantees were observed to be more likely to be female and less likely to be employed at program entry but otherwise were similar. Sixty-one percent of participants in the impact study are female relative to only 47 percent of non-impact study participants. Impact study participants were also only 41 percent employed at program entry, relative to 49 percent for non-impact study participants. Another notable difference is that impact study participants were 6 percentage points were observed to be more likely to be Black. Otherwise, differences between impact study participants were less than 4 percentage points across age, race and ethnicity, education, veteran status, criminal justice involvement, and having a disability. Due to the large sample size, all of the differences between the two groups are statistically significant, except disability status.

Exhibit IV.3. Characteristics of impact study sample and America's Promise participants not in the impact study

Characteristic	Non-impact sample	Impact sample
Sample size	21,422	4,402
Program year	-	-
2016	0%	0%
2017	35%	0%
2018	39%	0%
2019	15%	100%
2020	9%	0%
Age (years)	-	-
19 or younger	9%	7%
20–24	22%	21%
25–29	19%	19%
30–39	25%	23%
40–49	14%	14%
50 or older	12%	15%
Male	51%	39%
Female	47%	61%
Race and ethnicity	-	-
Hispanic	14%	14%
White, non-Hispanic	47%	43%
Black, non-Hispanic	25%	31%

[17] To ensure the samples are comparable, we compare the impact study sample to individuals who were matched to the NDNH data. Participants in PY2016 were therefore excluded because they were not submitted to the NDNH for matching.

Characteristic	Non-impact sample	Impact sample
Other race, non-Hispanic	13%	12%
Education level	-	-
No high school diploma or GED certificate	0%	0%
High school diploma or GED certificate	51%	54%
Some postsecondary education	30%	29%
Bachelor's degree or more	18%	17%
Self-reported employed at program entry	49%	41%
Eligible veteran	4%	2%
Criminal justice involvement	5%	3%
English learner	-	-
Disability	3%	3%

Source: NDNH data matched the WIPS data.

Note: Characteristics were reported at program entrance. The impact sample is not the analytic sample but rather the larger study sample from which the final intervention group is selected through matching. All group differences are statistically significant at the .01 level, except disability status.

America's Promise participants in the impact study had lower pre-enrollment earnings than other participants, but they had similar employment rates and unemployment insurance receipt (Exhibit IV.4). In the three quarters prior to enrolling in America's Promise, participants in the impact sample earned $935 less than America's Promise participants not in the impact sample, on average, per quarter—or 17 percent less. This difference existed across all three pre-enrollment quarters. Despite earning less, impact study participants had similar employment in all three pre-enrollment quarters and were observed to be slightly less likely to receive unemployment insurance. The impact study sample also had an average of 0.5 more jobs in the three quarters prior to enrollment.

Exhibit IV.4. Pre-enrollment earnings and employment of impact study sample and America's Promise participants not in the impact study

Characteristic (percentage if not otherwise specified)	Non-impact sample	Impact sample
Sample size	15,947	4,402
Pre-program employment	-	-
All quarters pre-enrollment	59%	60%
One quarter pre-enrollment	70%	73%
Two quarters pre-enrollment	72%	74%
Three quarters pre-enrollment	72%	75%
Pre-program earnings ($)	-	-
Average quarterly earnings	$5,510	$4,575
One quarter pre-enrollment	$4,990	$4,227
Two quarters pre-enrollment	$5,457	$4,728
Three quarters pre-enrollment	$5,667	$4,770
Pre-program unemployment insurance	-	-
Any quarter pre-enrollment	16%	13%
One quarter pre-enrollment	8%	10%
Two quarters pre-enrollment	6%	6%

Characteristic (percentage if not otherwise specified)	Non-impact sample	Impact sample
Three quarters pre-enrollment	4%	4%
Number of jobs in the three quarters before enrollment (average)	1.7	2.2

Source: NDNH data matched the WIPS data.

D. The Wagner-Peyser program and other services

To understand the impacts of participating in the America's Promise program, we formed a comparison group consisting of a subset of Wagner-Peyser (WIOA Title III) participants. The process for forming the comparison group is described in the next section. This section presents an overview of the Wagner-Peyser program, the services that members of the comparison group may have received through the program, and the extent to which unemployment insurance claimants interact with the Wagner-Peyser program. These services represent the counterfactual set of services that America's Promise participants would have received. Anyone interested in employment services through the workforce system is eligible Wagner-Peyser services, all America's Promise participants would have at least had access to these services, although many may not have used them. This section also describes how participants register for Wagner-Peyser, which is intended to inform the comparison between the process of registering for Wagner-Peyser relative to America's Promise.

The Wagner-Peyser Act of 1933 established the nation's public employment offices, initially known as the Employment Service. The subsequent Workforce Investment Act (WIA) and WIOA instituted reforms that developed the one-stop service delivery system and ultimately resulted in the co-location of Employment Service staff in the nationwide AJC system (Employment and Training Administration 2023).

Under Wagner-Peyser, Employment Service staff provide a range of services to job seekers through the AJC system. These services include the following:

- **Job search and placement services**, including counseling, labor market information, assessment, and referral to employers

- **Recruitment services for employers** to help fill vacancies

- **Rapid response events** to assist workers who have received notice of layoffs due to technological change, impact of imports, or plant closures

- **Reemployment services** for individuals receiving unemployment compensation

- **Access to the state's labor exchange,** which includes open job orders (DOL 2023).

Typically, Employment Service staff, who are employed by the state's workforce agency, provide job seekers with basic career services. Basic career services, as outlined in DOL guidance, are "universally accessible and must be made available to all individuals seeking employment and training services in at least one comprehensive American Job Center per local area" (TEGL 19-16 2017). These services are described as lighter touch services, and they could include program eligibility determinations, skills assessments, labor exchange services, information sharing about other programs and services, and program referrals. In some states, Employment Service staff may also provide individualized career services, which may include specialized assessments, development of individual employment plans, and connections for job seekers to work experience (WIOA State Plan, n.d.).

WIOA further emphasized Wagner-Peyser's mandate to provide reemployment services to unemployment insurance claimants (WIOA Final Rule 2016). Given this mandate, Employment Service staff may also provide additional service to unemployment insurance claimants under the Wagner-Peyser program. These services could include basic career services as described above, as well as targeted outreach to unemployment insurance claimants for job search assistance and employment referrals, administering state unemployment insurance work test requirements, referrals for education and training resources, orientation to AJC services, and provision of information and assistance for filing unemployment insurance claims (TEGL 19-16 2017).

Services received by Wagner-Peyser participants vary across states. Exhibit IV.5 shows the percent of Wagner-Peyser program participants from April 2020 to March 2021 receiving different levels of services, among the impact study states. Almost all Wagner-Peyser participants received basic career services, which include non-staff assisted services like registering in the state's labor exchange. However, some states provided individualized career services to a larger share of Wagner-Peyser participants. For instance, in Michigan and Virginia, over 75 percent of Wagner-Peyser participants received more intensive individualized career services. Although the Wagner-Peyser program focuses on career services, Wagner-Peyser participants can also receive training, funded through WIOA Title I. In Rhode Island, for example, over 15 percent of Wagner-Peyser participants also received training while in other states, between 2 and 5 percent of participants receive training.

Exhibit IV.5. Percent of Wagner-Peyser participants receiving each type of employment service and who exited from April 2020 to March 2021, by impact study state

State	Basic career services	Individualized career services	Received training
Florida	100.0	36.6	4.5
Kansas	99.8	36.1	3.1
Michigan	100.0	78.2	0.0
Oregon	94.0	22.9	0.0
Rhode Island	100.0	48.4	16.4
Tennessee	100.0	31.6	4.3
Virginia	100.0	89.7	2.3
Washington	98.8	28.2	5.2
West Virginia	79.1	7.0	4.6

Source: Program Year 2020 Data Book Workforce Innovation and Opportunity Act and Wagner-Peyser, 2022.

Under Wagner-Peyser, state-employed Employment Service staff typically provide similar career services nationwide. WIOA combined state plans offer some insights regarding variation in requirements for unemployment insurance claimants and the services available to Wagner-Peyser participants (WIOA State Plans n.d.). In each of the impact study states, unemployment insurance claimants are required to register for and post their resumes in the state's labor exchange. Through this process, unemployment insurance claimants are then registered as Wagner-Peyser participants. Their interactions with the state labor exchange constitute basic career services. While all unemployment insurance claimants are required to register in state labor exchanges, some states impose additional requirements on unemployment insurance claimants and how they interact with Wagner-Peyser program services (WIOA State Plans n.d.).

For example, in Michigan, all unemployment insurance claimants are required to visit an AJC as part of the claims process. States also vary in terms of the assistance that Employment Service staff can provide to unemployment insurance claimants. For example, in Rhode Island, Employment Service staff are trained to provide one-on-one assistance to individuals filing unemployment insurance claims.

The Reemployment Services and Eligibility Assessment (RESEA) program also shaped services for unemployment insurance claimants and by extension Wagner-Peyser participants in the impact study states. As of 2020, all impact study states participated in the RESEA program, which requires unemployment insurance claimants who are "determined to be most likely to exhaust benefits" to participate in reemployment services and enroll in the Wagner-Peyser program (RESEA 2023). Individuals enrolled in RESEA receive more than the basic career services that most Wagner-Peyser participants receive. As of fiscal year 2018, about 20 percent of all unemployment insurance claimants received RESEA services (RESEA 2023). RESEA programs require in-person meetings between unemployment insurance claimants and a trained AJC staff member, typically state-employed Employment Service staff. These sessions include individual assessments of claimants' continuing unemployment insurance eligibility, employment status, and work search activities, as well as support in developing an individual reemployment plan, customized labor market information, Wagner-Peyser enrollment, and information on AJC services (RESEA 2023). While RESEA programs all include a core set of services, the states use varied strategies to promote engagement in the services. In addition, during the COVID-19 pandemic, RESEA services typically shifted from in-person to remote, and many states temporarily suspended their programs (Trutko et al. 2022).

Individuals enrolled in Wagner-Peyser may also seek services from and be co-enrolled in other public workforce programs, such as training through the WIOA Title I Adult and Dislocated Worker Program or adult education services through the WIOA Title II adult education program (WIOA State Plans n.d.). Like America's Promise services, some of these services are available to eligible individuals free of charge. For instance, through WIOA Adult and Dislocated Worker programs, eligible individuals could access funding for education and training through an individual training account. As shown in Exhibit VI.5, a small, typically between two and five percent, percentage of Wagner-Peyser participants enroll in training. Typically, Wagner-Peyser participants who express interest in training when interacting with the AJC system could be considered for an individual training account or other work-based learning opportunity, such as an on-the-job training. However, enrolling in these training opportunities depends on the availability of funding and priorities for training set forth by local and state workforce boards (WIOA Final Rule 2016). America's Promise participants also had access to these other workforce programs while enrolled in the program (English et al. 2022a).

E. Constructing a comparison group

To estimate the impact of participation in an America's Promise program, we compare the outcomes of America's Promise participants to a subset of Wagner-Peyser participants with similar characteristics and employment histories. Given the importance of comparing treatment and comparisons group in the same local labor markets (Heckman et al. 1997), we limit the potential comparison pool of Wagner-Peyser participants to individuals who live in counties that are served by an America's Promise grantee. This

results in a sample of 169,070 Wagner-Peyser participants who form the pool of potential comparison group members.

We used partial exact matching combined with caliper matching based on estimated propensity scores to identify a comparison group (Iacus et al 2012, Austin 2011). The array of factors that we used in our matching was extensive; however, there was one variable that we wished to include, industry of employment, but could not. Although we knew the industry that the treatment group hoped to enter, we did not have similar information for the comparison group. Therefore, industry of employment was not included in our matching approach.

We used a propensity score-based matched comparison design to identify the group of Wagner-Peyser participants who made up the comparison group. For each individual in the treatment and potential comparison groups, we first estimated a propensity score, which describes the likelihood of participating in America's Promise given their individual characteristics and employment history. While matching on the industry of the training program was not an option (as Wagner-Peyser participants did not have data on training/employment industry), we performed matching separately for three groups of America's Promise participants. The first was participants at the Rhode Island Department of Labor and Training. This was the largest partnership and represented the overwhelming majority of participants in advanced manufacturing. The second was the group of participants trained in the health care industry. This was the second largest training industry and attracted participants who were mostly female, in contrast to other industries. The third group included all other participants.

In our approach, we estimated propensity scores using three methods designed to select predictors from a large number of covariates including individual characteristics (listed in Exhibit IV.3) and pre-enrollment employment and earnings. We generated propensity scores from each, then compared using a "horse race" approach to assess which methods perform best with the data from our sample (Stuart 2010). There are three methods that were compared:

I. Bayesian additive regression trees (BART). BART starts with a full set of potential covariates and identifies a subset of covariates most predictive of outcomes (Chipman et al. 2010). It does this by incrementally adding additional covariates if and only if they provide sufficient additional explanatory power.

II. Toolkit for Weighting and Analysis of Nonequivalent Groups (TWANG). TWANG is similar to BART but is specifically designed for predicting binary outcomes (such as whether an individual is in the treatment or comparison group) (Griffin et al. 2014).

III. Double Selection Least Absolute Shrinkage and Selection Operator (LASSO). LASSO models select covariates predicting the propensity score from a prespecified list of variables and interaction terms. The method limits the number of covariates included in a model by imposing a penalty for each additional covariate added. Double selection refers to the fact that we consider the ability of variables and interactions to predict both treatment status and outcomes (Belloni et al. 2014).

More detail about each of these methods and their advantages can be found in section E of the technical appendix. To choose between these three methods, we estimate a prognostic score on the comparison group identified by each method. The prognostic score is a measure of predicted outcomes based on

covariates (Stuart 2010). We then estimate the prognostic score model on the treatment group and compare average values to identify the treatment and comparison group pair which is most similar. We describe this process in detail in section E of the technical appendix. We use a Double Selection LASSO model to estimate propensity scores, which was selected for its superior ability to produce a pooled comparison group that most closely resembles the treatment.

In addition to demographic characteristics, the individual covariates considered include a set of pre-enrollment labor market outcomes designed to represent both the individuals steady-state earnings and whether the individual experienced an earnings shock leading up to program enrollment. These include the individual's employment at program enrollment, unemployment insurance receipt during either the quarter of or quarter prior to entry, earnings and employment in each of the three quarters prior to enrollment, the number of employers the individual had during the three quarters prior to enrollment, and whether the individual had a consistent employer across those quarters. For additional information on covariate selection for the model, see section E of the technical appendix.

We used partial exact matching with caliper matching to identify the group of Wagner-Peyser participants who were most similar to each individual in the treatment group, based on the similarity of the propensity score.[18] We first focused on a subset of variables for exact matching that we believe are most important for ensuring that the comparison group and treatment groups are comparable. The time period of our study includes the start of the COVID-19 pandemic, which was a particularly turbulent time in the national labor market. As a result, to ensure treatment and comparison group members were experiencing similar labor markets, we matched exactly on the quarter of program entry for participants and state of training. We also exact matched on employment at entry to prevent matching an individual who recently received and employment shock, such as losing one's job, to one who did not.[19] We also exact matched on gender due to the different occupational preferences and the differential impact of the COVID-19 pandemic by gender.

Within the pool of potential comparison group members who match each treatment group member on these four characteristics, we use caliper matching to identify the final comparison group. This means that each America's Promise participant is mapped to all Wagner-Peyser participants whose propensity score is within a given distance of theirs. We use sample weighting so that each America's Promise participant is represented equally in the comparison group. By including partial exact matching in addition to caliper matching, we are ensuring a perfect match on the key variables selected but limiting the pool of potential matches for each treatment group member. In this way, we are trading off the ability to have a closer match across variables for a perfect match on some. We determined this balance to be optimal for our context given the unique nature of the labor market due to COVID-19 during our time period and the potential bias that could be caused by matching between those with and without an earnings shock. For more details on the matching methods and the tradeoffs between matching methods, see section E of the technical appendix.

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[18] Our primary analyses use a caliper of 0.1 standard deviations of the logit of the propensity score (Rosenbaum and Rubin 1985).

[19] Employment at program entrance is defined as self-reporting that you are employed at program entrance and not receiving unemployment insurance in either Q-1 or Q0.

F.   Sample balance

The impact study includes 4,402 America's Promise participants who form the treatment group and 169,070 Wagner-Peyser participants who form the potential comparison group. Of the America's Promise participants who are considered in the impact study, 3,746 are matched to at least one member of the potential comparison group and therefore included in the impact analysis. Of the potential comparison group members, 61 percent (or 103,679 Wagner Peyser participants) are matched to at least one treatment group member and are then weighted based on the number of treatment group members they are matched to.

After forming the analytic sample of treatment and comparison group members through the process described above, we assessed the balance of the two groups to see how similar they are. Assessing balance is a critical step in determining whether propensity score matching procedures created two groups that are alike in their characteristics prior to the implementation of the treatment (Stuart 2010). Having two groups that are imbalanced in their baseline characteristics may suggest that in the absence of the intervention, the outcomes of the treatment and comparison group may have differed meaningfully as well. Therefore, this would call into question the validity of the comparison group.

To assess balance, we examine the characteristics of the selected treatment and comparison groups. Because the America's Promise participants are matched with Wagner-Peyser participants with similar characteristics, the two groups are very similar in terms of their demographic characteristics. Wagner-Peyser participants were observed to be slightly more likely to be older and White, to have been involved with the criminal justice system, and to have a recognized disability (Exhibit IV.6). Comparison group matched cases also had slightly higher earnings in the first three quarters prior to the program and employment two quarters prior to program initiation. A full list of individual characteristics and the values of the America's Promise and the Wagner-Peyser matched groups can be found in Appendix Exhibit A.10.

Assessing differences through standardized mean differences is a useful approach to determining how similar two groups are. The standardized mean difference is a measure of the magnitude of difference between groups and is easier to compare across different characteristics. Standardized mean differences compare differences in means, expressed as units of the standard deviation. Unlike *t*-tests and other typical tests of hypotheses of difference, measures of standardized mean difference are not influenced by sample size (Austin 2009). In addition, differences that are between -0.25 and 0.25 are generally considered small enough to be addressed through statistical modeling. The U.S. Department of Education's What Works Clearinghouse uses this threshold of an absolute value of 0.25 standard deviations in defining the boundary of differences that can be accounted for statistically. If the standardized difference between two groups is greater than 0.25 (or less than -0.25) standard deviations, the What Works Clearinghouse considers the groups to lack equivalence (What Works Clearinghouse 2022).

Exhibit IV.6 below presents the differences in standardized means for each of the individual characteristics and pre-enrollment quarterly employment and earnings. This figure shows that the differences in standardized mean differences are all within the values to be considered eligible for statistical adjustment, with all but three standardized mean differences under 0.1.

Exhibit IV.6. Standardized mean differences in characteristics of America's Promise participants in the impact study relative to the matched Wagner-Peyser participants
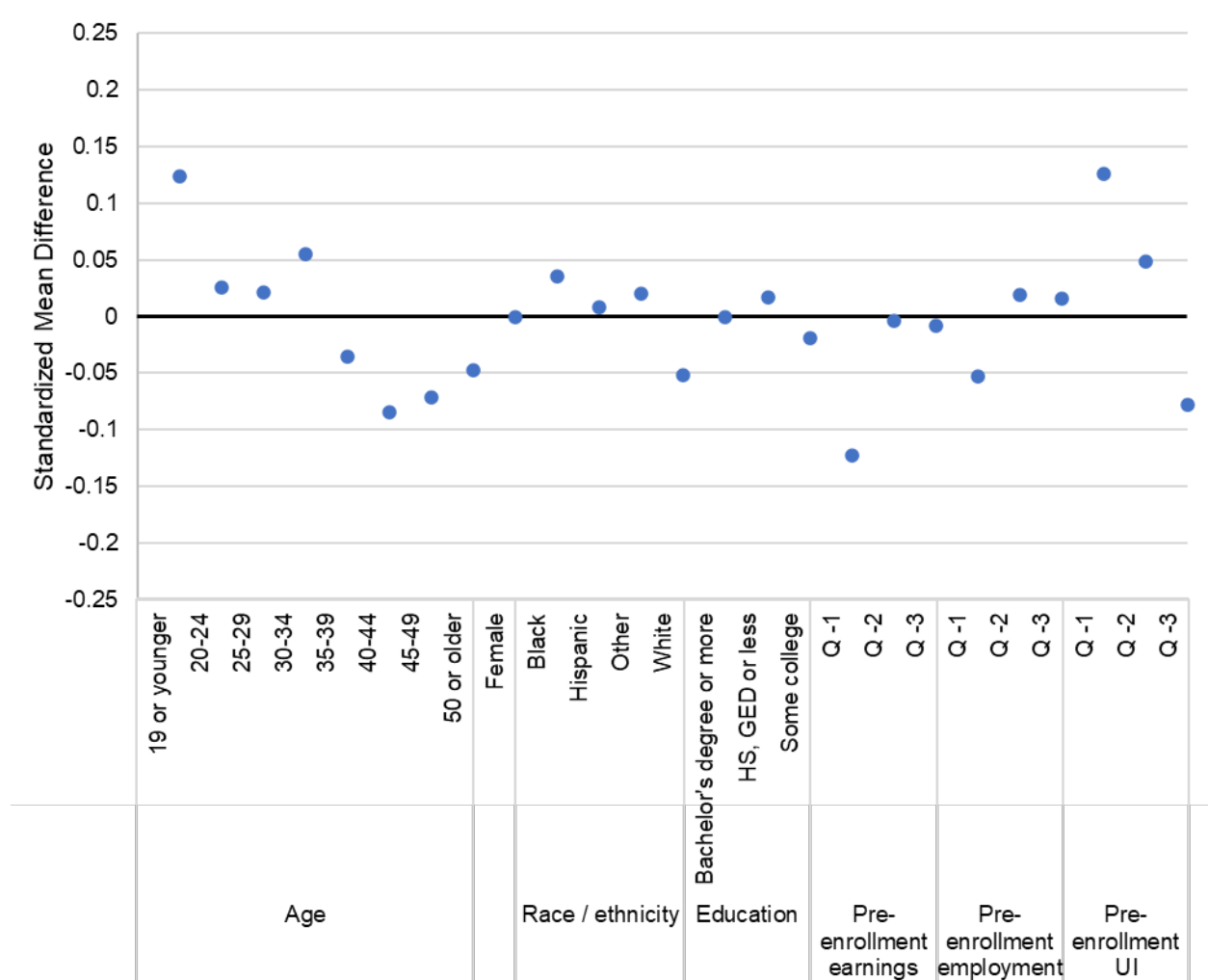
Source: NDNH data matched the WIPS data.

Note: Sample includes all individuals in the matched America's Promise impact study sample or the matched comparison group. Characteristics were reported at program entrance.

HS= High school, GED = General Education Development (high school equivalency), UI = Unemployment Insurance

G. Methods for estimating pooled impacts

We estimate the impact of America's Promise on the earnings and employment of participants at one of the 12 America's Promise partnerships which served participants in one of our impact study sample states. For the two partnerships in Virginia, the results are limited to the first four quarters post-enrollment due to data availability. Therefore, all impacts on Q5 and beyond are limited to 10 partnerships.

To estimate the pooled impact of America's Promise, we estimate a series of regression models using the matched sample. The impact model contains the same set of sociodemographic predictors as the propensity score model and listed in Exhibit IV.3. The model also includes a measure of the quarter that the individual entered the program, a measure that corresponds to being employed at program entry, and

the set of pre-enrollment labor market covariates included in the propensity score model (listed in Section IV.E), which are designed to capture both steady-state earnings and whether the individual experienced an earnings shock leading up to program enrollment. Observations in the matched comparison group sample are weighted so that all treatment group members are equally weighted in the comparison group sample.[20] This results in treatment estimates, which we describe as average treatments on the matched because they represent the average impact for our sample, which is limited to matched individuals. For additional details on the pooled impact analysis methods, see section G of the technical appendix.

To assess the sensitivity of our estimates to the decisions that we made related to design, we estimate results separately for a range of alternative decisions. First, we estimate the results for each of the other two propensity score estimation methods considered, BART and TWANG. We estimate impacts using both a caliper of 0.1 and 0.2 standard deviations of the logit of the propensity score distribution. We also estimate impacts using propensity scores calculated with the Double-Selection LASSO with a 0.2 standard deviation caliper. Next, we estimate impacts using nearest-neighbor matching, an alternative to caliper matching which matches each treatment individual to the potential comparison group member with the closest propensity score. Finally, it is possible that some comparison group members received an employment shock in Q0 which does not appear in the data until the individual received unemployment insurance in Q1. We therefore estimate impacts excluding individuals who went on unemployment insurance for the first time in Q1 from the comparison group.

H. Outcomes

To address the impact study research questions, we use the model described above to analyze the impact of participation in America's Promise on a set of outcomes estimated using NDNH data. These include quarterly indicators for employment and quarterly earnings. In addition, to address the exploratory research questions, we estimate the model on the outcomes listed in Exhibit IV.7.

Exhibit IV.7. Outcome measures for exploratory impact analyses

Outcome	Description
Total earnings in the two years following program enrollment	Total earnings across all employers in Quarters 1–8 following program enrollment in Quarter 0
Number of employers in the two years following program enrollment	Number of unique employers from which an individual received any earnings
Received unemployment insurance in the two years following program enrollment	An indicator equal to 1 if an individual received unemployment insurance in Quarters 2–8 following program enrollment in Quarter 0[a]
Employment in the eighth quarter following enrollment	
Working a single job paying at least 200% of the federal poverty level	An indicator equal to 1 if an individual earned an amount greater than equal to 200% of the federal poverty level, defined for a two-person household, from a single employer

[20] To calculate comparison group weights, we assign each comparison group member a match-specific weight of 1 divided by the number of matches for the treatment group member. We then estimate the comparison group member weight as the sum of their match-specific weights. For example, consider a comparison group member who was matched to two treatment group members, one with 10 matches and one with five. This comparison group member would be assigned a weight of 0.1 for the first match and 0.2 for the second match, for a total weight of 0.3.

Outcome	Description
Earning more than three quarters prior to enrollment	An indicator equal to 1 if an individual's total earnings in the eighth quarter following enrollment was larger than their total earnings in the third quarter prior to enrollment
Worked more than one job	An indicator equal to 1 if an individual received income from two or more employers in the eighth quarter following enrollment

[a] Unemployment in the first quarter following program enrollment was considered likely to be from a pre-enrollment shock and not considered in this outcome.

I.   Limitations

This study relies on propensity score matching to identify a comparison group which is as similar as possible to the group of participants in America's Promise. Despite this, there may be differences between the treatment and comparison group that remain after matching. First, there is not a perfect match in the Wagner-Peyser sample for each individual. We therefore rely on propensity scores to find the best match of the available options. However, it is possible that the differences in observable differences that are sustained after matching will have a meaningful impact on outcomes.

It is also possible that there are meaningful differences between the treatment and comparison group that we are unable to observe in our data. This would happen if there were differences in the types of people who seek or receive Wagner-Peyser services and the types of people who seek and receive America's Promise services. As discussed in Chapter 2, some America's Promise programs included assessments (16 partnerships) or interviews (20 partnerships) in order for participants to be enrolled in the program. If America's Promise programs selected participants with more earnings potential conditional on prior earnings, this could lead our results to be biased upwards. Similarly, this may emerge because different types of people are interested in the two services. For example, more motivated people may be more likely to seek training than basic employment services. In this case, our results may be upwardly biased if America's Promise participants had higher counterfactual earnings due to motivation.

While there are limitations to this study because there may be differences between the treatment and comparison groups, there are also benefits to relying on a comparison group made of Wagner-Peyser participants. When considering the appropriate study design, an important consideration is the services received by the comparison group. This is the basis for interpreting the treatment effects because it defines the comparison. One study design, an RCT may be considered preferable because the participants in the comparison group are randomly selected, removing any possibility of systematic differences between the two groups. However, the comparison group is also selected from a group of individuals who actively sought out training. In many contexts, individuals who do not get selected into the treatment group will simply find training elsewhere (Fortson et al 2017). In this case, our comparison group of Wagner-Peyser participants, who were less likely to receive occupational treating, may better represent the impact of training relative to no training.

The study is also limited by the setting in which it is conducted. First, the analysis is limited to nine states. There are differences across states along a range of margins that may impact America's Promise participants, such as local labor markets, training opportunities, and employment laws. Therefore, it is possible that these results may not be generalizable to other states. Second, the participants in the impact

study all enrolled in America's Promise or Wagner-Peyser between July 2019 and June 2020. Therefore, the labor market that they were entering was or was about to be heavily impacted by the COVID-19 pandemic. The impact estimates describe the experiences of a group of participants in this unique labor market. It is unclear how these results are generalizable to other circumstances.

Finally, we are limited by the data available. The outcomes of this study only evaluate the impact of America's Promise on earnings and employment. It is possible that America's Promise participants are impacted on a range of other margins, such as employment satisfaction, employment benefits, and person well-being. America's Promise impacts may also extend beyond the two-year period covered by the impact study.

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V. Impacts on Earnings and Employment

In this section we present estimates of the impact of America's Promise on the average employment and earnings of participants included in this study. In this analysis, each participant is weighted equally, so partnerships who served more participants during the study period will receive more weight than partnerships who served a smaller number of participants. We first present the research questions considered in estimating the impacts of participation in an America's Promise program, pooled across all impact study partnerships. Next, we present the employment and earnings impact estimates for all participants in the impact study. To further understand the effects of participation in America's Promise, we next present estimates of the program's impact on different subgroups of the population.

Key findings

- **America's Promise participants experienced an increase in employment and earnings in the first quarter following enrollment relative to the comparison group of Wagner-Peyser participants.**

- **Participation in America's Promise led to a 6 percentage point increase in employment in the fourth quarter after enrollment and a 4 percentage point increase in the eighth quarter following enrollment.**

- **Participation in America's Promise led to an average $2,697 increase in earnings in the second year following enrollment.**

- **These impact estimates are large relative to estimates for most other employment services, and consistent with more recent estimates of the impact of sectoral training programs (Card et al 2018, Katz et al 2022)**

- **The impact results were estimated on a labor market heavily affected by the COVID-19 pandemic.◢**

A. Research questions

To estimate the impacts of participation in America's Promise, we analyzed the research questions listed in Exhibit V.1. We specified three confirmatory research questions as our primary measures of the impact of program participation. By specifying a small number of research questions, we limited the impact of multiple hypothesis testing could have on our study without substantially reducing our power to detect impacts through statistical corrections (Schochet 2009). We also include a set of exploratory research questions intended to provide supporting evidence on the nature of the program impacts.

Exhibit V.1. Cross-partnership impact study research questions

Question #	Cross-site impacts research questions
Confirmatory research questions[a]	
Compared with receipt of Wagner-Peyser services, what was the impact of participation in a program at one of 12 America's Promise partnerships on the following:	
C.1a	Employment in the fourth quarter after program enrollment
C.1b	Employment in the eighth quarter after program enrollment
C.1c	Earnings in the second year following program enrollment
Exploratory research questions	
Compared with receipt of Wagner-Peyser services, what was the impact of participation in a program at one of 12 America's Promise partnerships on the following:	
C.2a	Quarterly employment and earnings for eight quarters after program enrollment
C.2b	The rate at which individuals worked in a single job providing earnings greater than 200 percent of the federal poverty rate (for an individual) in the eighth quarter after program enrollment
C.2c	The rate at which individuals attained earnings in the eighth quarter following enrollment that were equal to or greater than their earnings in the third quarter before program enrollment
C.2d	Total earnings in the two years following program enrollment
C.2e	The total number of jobs worked in the two years following program enrollment
C.2f	Whether the individual worked two or more jobs in the eighth quarter after program enrollment
C.2g	Unemployment Insurance received in the two years following program enrollment
How did impacts of enrolling at one of 12 America's Promise partnerships on earnings and employment differ by the following subgroups:	
C.3a	Participants enrolled in America's Promise training programs targeting different industries
C.3b	Enrollment status (currently enrolled, previously enrolled, or not yet enrolled) when the COVID-19 pandemic[b] began to affect the United States
C.3c	Participant's gender; race/ethnicity; education; and designation as unemployed, underemployed, or an incumbent worker at program enrollment

Note: Any participant who enrolled in the America's Promise or Wagner-Peyser programs are considered to have participated, regardless of the services received.

[a] Confirmatory research questions describe the primary analyses, which will be used to assess whether there was an impact of program participation.

[b] We define the start of the COVID-19 pandemic as April 1, 2020.

B.   Employment and earnings effects

This section compares the overall employment and earnings experiences of America's Promise participants and matched comparisons during the eight quarters after program enrollment. We examined impacts by quarter and year after program enrollment and over the entire two-year follow-up period. We measured employment and earnings using administrative wage records of unemployment insurance from the National Directory of New Hires (NDNH).

We found strong positive effects from participation in America's Promise across all three of our confirmatory outcomes (Exhibit V.2). These results must be interpreted within the context in which they are estimated. As discussed in Chapter III, Program Year 2017 and 2018 participants experienced a sharp increase in earnings following enrollment. For participants who entered in Program Year 2019, the impact

study population, their first year showed a slower and smaller growth in earnings and employment, reflecting the poor economic conditions caused by the COVID-19 pandemic (U.S. Bureau of Labor Statistics 2021). The impact results were designed to describe how America's Promise participants' earnings and employment compared to what they would have been in the counterfactual scenario in which they had not enrolled in the program. Therefore, it was also important to consider how America's Promise participants likely would have been impacted by the COVID-19 pandemic if they had not been enrolled in the program. During the first year for which we estimated impacts, the overall economy experienced dramatic declines in employment and earnings (Larrimore et al. 2022). Consistent with this, the comparison group experienced a drop in employment following enrollment (Exhibit V.3). Therefore, the impact estimates represent a comparison to a counterfactual of falling employment and earnings, relative to pre-program enrollment, particularly in the first year following enrollment. As the economy recovered from COVID-19, it experienced steady improvement, suggesting that without America's Promise, participant earnings would likely have increased around the second year following the time of enrollment (Essien et al 2022). We provide additional discussion of how the COVID-19 context affects the interpretation of these impact estimates throughout this chapter.

Exhibit V.2. Impact of participation in an America's Promise program: Confirmatory outcomes

Outcome	Comparison group mean	Impact estimate	Standard error	*p*-value
Employment in the fourth quarter after program enrollment	66%	6%	1.4%	<.0001
Employment in the eighth quarter after program enrollment	69%	4%	1.2%	.0004
Earnings in the second year (Quarters 5 to 8) after program enrollment	$22,182	$2,697	$684	<.0001

Source: NDNH data matched to WIPS data. Data cover 2018Q4 – 2021Q2 in Virginia and 2018Q4 - 2022Q2 in all other states.

Notes: Employment is defined as having any earnings in a given quarter. For a detailed description of estimation methods, see the technical appendix. Sample size for employment in quarter 4: 3,746 (America's Promise), 103,679 (comparison group). Sample size for employment in quarter 8 and earnings: 3,538 (America's Promise), 103,175 (comparison group).

Employment. We found a strong positive impact of the America's Promise program on employment following enrollment. There was a 6 percentage point increase in employment inQ4, one year following enrollment, relative to a 66 percentage point average employment rate in the comparison group. In the eighth quarter following enrollment, the impact of participation drops slightly to a 4 percentage point increase in employment, relative to an employment rate for the comparison group that increased to 69 percent. This change in the comparison group employment likely represents the improving economy over this calendar year.

Exhibit V.3 shows the estimates of the effect of participation in America's Promise on employment in each quarter relative to program enrollment. These estimates show that employment effects appeared immediately, with an impact of 4 percentage points as early as the first quarter following enrollment and statistically significant impacts in every quarter. Notably, there does not appear to be a "lock-in effect" beyond the quarter of enrollment in the America's Promise program. A lock-in effect is a common impact of training programs in which participants experience a short-term fall in employment when they are out of the labor market as they complete training (van Ours, 2004). This is not seen in America's Promise for

two likely reasons. First, America's Promise programs often offered paid work-based opportunities, which increased employment for participants. Second, classroom-based training programs were generally of short duration, with more than half of programs lasting less than one quarter. We see evidence of a statistically significant difference between the treatment and control groups in the pre-program period, specifically in the first quarter before enrollment.[21] This difference likely represents the longer time between an earnings shock and program enrollment for America's Promise participants compared to Wagner-Peyser participants.[22] Therefore, America's Promise participants who enrolled in the program following an earnings shock were more likely to experience the shock in Quarter -1, relative to Wagner-Peyser participants, who were more likely to experience it in Quarter 0. We discuss the impact of this timing difference at length in section E of the technical appendix.

Exhibit V.3. Impact of participation in an America's Promise program on quarterly employment

Source: National Directory of New Hires data matched to Workforce Integrated Performance System data. Data cover 2018Q4–2021Q2 in Virginia and 2018Q4–2022Q2 in all other states.

Notes: The black line represents the impact estimate in each quarter. Employment is defined as having any earnings in a given quarter. Error bars represent the 95 percent confidence interval. For a detailed description of estimation methods, see the technical appendix.

Earnings. We also found strong positive impacts of America's Promise on earnings in the two years following enrollment. We estimated that America's Promise participants earned $2,697 more in the second year after enrollment than the comparison group (Exhibit V.1). As with employment, this figure reflects an increase in the earnings impact in the first year following enrollment; the earnings impact then remains mostly steady in the second year (Exhibit V.4). Overall, this represents approximately $6,697 total

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[21] Estimates of the impact of participation on earnings in the quarters prior to entry (Quarter -3 through Quarter -1) are regression adjusted for demographics but are not regression adjusted for pre-period earnings and employment.

[22] We describe the difference in time to enrollment in depth in section E.2 of the Appendix.

additional earnings in the two years following enrollment (Exhibit V.5). Similarly to what we see with employment, we see evidence of a difference in earnings for America's Promise participants relative to the comparison group leading up to enrollment.

Exhibit V.4. Impact of participation in an America's Promise program on quarterly earnings
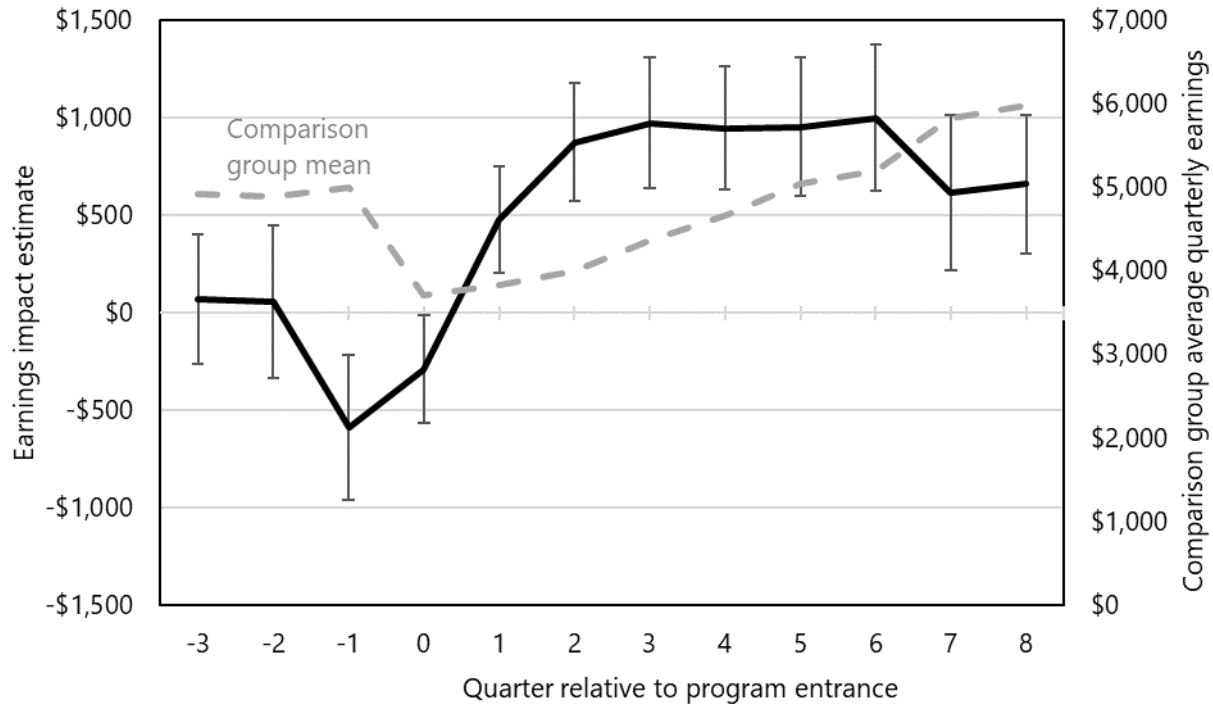
Source: NDNH data matched to WIPS data. Data cover 2018Q4–2021Q2 in Virginia and 2018Q4–2022Q2 in all other states.

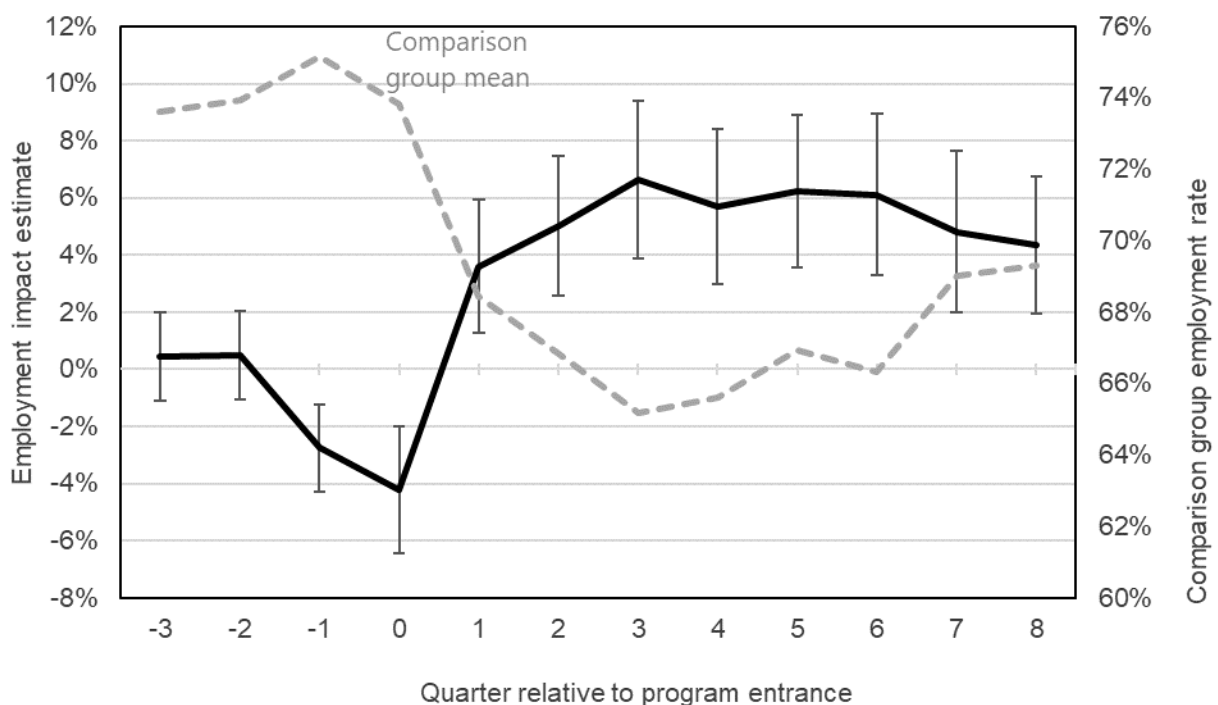Notes: The black line represents the impact estimate in each quarter. Error bars represent the 95 percent confidence interval. For a detailed description of estimation methods, see the technical appendix.

To interpret the magnitude of the impact study's results, we compared the impact estimates to benchmarks from studies of other employment services. This allowed us to understand how the impacts of America's Promise compares to other similar programs and to gain reasonable expectations of what the impacts were likely to be. Specifically, we compared our estimates to the distribution of employment and earnings effects of employment services from a set of meta-analyses. We found that the employment and earnings impact estimates for America's Promise are large relative to benchmarks from other employment interventions. First, finding a statistically significant result is not common. For example, in a review of 127 employment interventions, Shiferaw and Thal (2022) found that only 12 have a more than 90 percent probability of improving outcomes for participants. Among interventions that do show an impact, the employment impact estimates of America's Promise are high. We estimated an employment effect of 6 and 4 percentage points in the fourth and eighth quarters following enrollment, respectively. In comparison, in a meta-analysis of active labor market policies, Card (2018) found that one- to two-year effects are generally centered around 3 to 5 percentage point. For additional context, 5 percent is approximately equivalent to the difference in employment rates between individuals with a bachelor's degree and those with an associate degree.[23] The estimated earnings effects are also substantially larger

[23] Based on authors' calculations using the 2021 American Community Survey. In 2021, the employment rate was 79 percent for individuals with an associate degree and 84 percent for individuals with a bachelor's degree.

than benchmarks. Shiferaw and Thal (2022) demonstrated that no categories of employment services have an estimated impact of over $1,000 annually.

The results of this study are more consistent with recent estimates on the impacts of sectoral training programs. Katz et al (2022) review four RCTs of the WorkAdvance program and found substantial gains in participant earnings, averaging 13 percent in the second and third years following training completion. These results therefore provide support for the claim that sector-based training programs are more effective than other employment services (Holzer 2015).

The magnitude of the impact estimates may also reflect the high baseline wages for participants and sector-based training strategies of programs. America's Promise training programs targeted participants with higher education than many other training programs. As a result, the participants tended to have higher earnings prior to program enrollment than the target populations for other employment services. For example, in a synthesis of the studies evaluated by the Pathways to Work Clearinghouse, Rotz and Langan show that of the 221 interventions reviewed, many targeted populations facing employment barriers that are associated with lower incomes. For example, 30 percent of interventions reviewed specifically targeted cash assistance recipients, 9 percent targeted youth, 8 percent targeted individuals with justice involvement, and 7 percent target individuals experiencing or at risk of homelessness.

Job quality and stability. We found mixed results when exploring the impact of America's Promise on a set of variables designed to represent job quality and stability. For example, one measure of job quality is whether a person is employed and earning a living wage. By the eighth quarter following enrollment, America's Promise participants are 6 percentage points more likely than before to be working a job that pays at least 200 percent of the federal poverty line, suggesting that they are working higher paying jobs and earning a living wage (Exhibit V.5). However, there was also a small (3 pp) change in the likelihood of a person's getting unemployment insurance in the two years following enrollment. This small degree of change suggests that America's Promise somewhat decreased the likelihood that participants were affected by layoffs driven by COVID-19 or increased the rate at which they found new employment (U.S. Bureau of Labor Statistics 2021).

Another potential measure of job quality is whether an individual has to work more than one job to make ends meet. We found that participants were 1 percentage point more likely to work more than one job in the eighth quarter after enrollment. This result suggests that America's Promise is not preventing the need for participants to take more than one job to make ends meet. Finally, we found evidence that America's Promise improved participants' earnings relative to their own baseline. America's Promise participants were 7 percentage points more likely to earn more in the eighth quarter following enrollment than they were earning during the three quarters before enrollment, suggesting that America's Promise may have helped workers find higher paying jobs than they had prior to enrollment.

Exhibit V.5. Impact of participation in an America's Promise program: Exploratory outcomes

Outcome	Comparison group mean	Impact estimate	Standard error	T stat	*p*-value
Total earnings in the two years following program enrollment	$39,155	$5,226	$1,176	4.4	<.001
Number of employers in the two years following program enrollment	2.7	0.1	0.1	2.1	0.038
Received unemployment insurance in the two years following program enrollment	48 pp	-0.03	0.02	-2.2	0.028
Employment in the eighth quarter following enrollment:	-	-	-	-	-
Worked a single job paying at least 200% of the federal poverty line	25 pp	0.04	0.01	3.3	0.001
Worked more than one job	23 pp	-0.01	0.02	-0.4	0.682
Earned more than the third quarter prior to enrollment	50 pp	0.05	0.02	3.1	0.002

Source: NDNH data matched to WIPS data. Data cover 2018Q4–2021Q2 in Virginia and 2018Q4–2022Q2 in all other states.

Notes: Employment is defined as having any earnings in a given quarter. For a detailed description of estimation methods, see the technical appendix.

Pp= percentage points.

The confirmatory outcomes are measured between July 2020 and June 2021 (fourth quarter outcomes) and July 2021 and June 2022 (eighth quarter outcomes), a period in which the economy was still heavily impacted by COVID-19 (U.S. Bureau of Labor Statistics 2022). During the period in which fourth quarter impacts were measured, the economy was still facing high unemployment rates and volatile work arrangements. The positive employment effects of America's Promise may represent a protective element of the program if participants were shielded from layoffs because of the strong program relationships with employers and the focus on in-demand jobs. America's Promise programs may also have connected participants to new opportunities through partner employers. It is uncertain how program effects during this period compare to those of a more typical labor market. Similarly, rates of unemployment insurance claims surged during the period of our study (DOL 2023); therefore, it is possible that America's Promise impacts on receipt of unemployment insurance would be different in a labor market with fewer overall claims.

C.   Subgroup analyses

In this section, we break down impact estimates to further describe what works in America's Promise training programs and for whom. We did this breakdown by estimating the impact of America's Promise participation separately for different subgroups of the population. For program characteristics, we focused on the training industry of the America's Promise participant, given that training and labor market demand varied across industries. For individual characteristics, we analyzed differences by gender, race/ethnicity, education, and self-reported employment status at entry. Given the dramatic impact of the COVID-19 pandemic on the economy and participants, we also looked at variation by enrollment status in March 2020, when the United States labor market began to experience the major impacts of the COVID-19 pandemic. For all subgroup analyses, we selected all treatment group members in the relevant

subgroups and compared them to the corresponding matched comparison sample, keeping the matches the same as in the pooled analyses. This means that comparison group members may not be in the relevant subgroup. Exhibit V.6 presents the results by subgroup.

Industry focus. There were statistically significant differences in impacts among the various training industries on all three confirmatory outcomes. Participants in both health care and advanced manufacturing training programs experienced large employment effects in the fourth quarter (12 percentage points for health care and 6 percentage points for advanced manufacturing) and eighth quarter (8 percentage points for health care and 5 percentage points for advanced manufacturing) following enrollment. In contrast, the impact estimates on employment for participants in IT and other industries were small and not statistically significant. Participants in health care training programs experienced a $6,441 impact on earnings in the second year following enrollment. This is considered to be a large impact in the context of employment service interventions, which generally have impact estimates under $1,000 annually (Shiferaw and Thal 2022). This result is particularly important to interpret in the context of the COVID-19 labor market, in which health care workers were in high demand (Wilensky 2022). Because we were unable to identify an industry for comparison group members, matched comparison group members may have been in other industries, which were impacted differently by COVID-19. Workers in IT also experienced a large impact ($6,875) from their program participation, despite the program's having insignificant employment effects, suggesting that these training programs were increasing earnings for individuals who would have been employed regardless. In contrast, advanced manufacturing programs had strong employment effects but only a $2,277 earnings impact. Individuals in other/missing industries did not experience any statistically significant program effects in earnings or employment. This outcome may suggest that some individuals who showed no data regarding a training industry did not start a training program.

Employment status at program entry. We next look at how impact effects varied among the three self-reported employment statuses of program-eligible participants of America's Promise at entry. Employment effects were similar for individuals who were underemployed and unemployed at the time of program entrance, although earnings effects were much lower for those who were unemployed compared with those who were underemployed. Participants who were underemployed at program entry experienced a program impact of $2,979 in earnings in the second year following program enrollment, almost twice the $1,531 impact for those who were unemployed. Differences in impacts among individuals with different employment statuses at program entry were statistically significant for all three outcomes. Earnings impacts were extremely high ($11,428) for the very small group of incumbent workers. This extreme result likely represents the fact that companies selected promising workers for these programs and that employers had confirmed that the workers' participation in the training would lead to career advancement. The impact estimate for incumbent workers may be the most at risk for selection bias, given that these are workers identified by employers as having promise, an attribute we can't observe in the comparison group. We therefore include sensitivity analyses in which we remove these participants.

Race and ethnicity. White participants experienced larger employment and earnings impacts than other races and ethnicities. For example, in the second year following enrollment, White participants

experienced an earnings impact of $4,268, more than three times the impact on Black participants and participants of other races.

Equity Focus: A Closer Look at the Discrepancies in Impact Estimates by Race and Ethnicity

The results by subgroup reveal a striking difference in the impacts of America's Promise on participants by race and ethnicity. This presents concerns about whether the America's Promise programs are providing services that effectively serve all participants, rather than just a subset. Understanding why the impacts were lower for Black and Hispanic participants than white participants can provide important insight into how programs can increase opportunities for previously marginalized workers.

Differences in impacts by race and ethnicity may be driven by one of three factors: (1) differences in the programs in which participants of difference races and ethnicities enroll, (2) differences in program completion and credential attainment by race and ethnicity, (3) differences in the likelihood of obtaining and sustaining a high quality job. We first look at whether differences in impacts were driven by differences in the programs that participants of different races and ethnicities enroll in and find this does not explain the differences. Controlling for the treatment effects by industry and program has only minor impacts on the differences in impacts by race and ethnicity. Next, we look at program completion and credential attainment. In the outcomes analysis, we found that Black and Hispanic participants are five percentage points and seven percentage points less likely than white participants to receive a credential, respectively. However, controlling for credential and training completion only explains a small share of the differences in impacts by race and ethnicity. This suggests that much of the difference is driven by the share of participants who obtain or sustain jobs after completing programs. This highlights the importance of understanding how challenges for Black and Hispanic participants, such as labor market discrimination and lack of resources, can make it harder to obtain and sustain high quality employment following the program.

These results contribute to a limited literature on how government-sponsored occupational training programs can be used to specifically benefit historically marginalized groups, such as Black and Hispanic workers. Carmadelle et all (2022) review 27 evaluations of government sponsored training programs and find that only six disaggregate results by race. Of these, the results varied across studies. For example, the WorkAdvance Demonstration (Hendra et a 2016) actually finds that employment effects were larger for Black and Hispanic participants. These differences highlight that understanding what works for Black and Hispanic workers in training should be a first order research objective for policy-makers interested in improving workforce equity.

Gender. Employment effects were relatively similar across genders. This finding is consistent with the finding from Spitzer et al. (2022) that female America's Promise participants' employment and earning were not disproportionally affected by the COVID-19 pandemic, despite females in the general population experiencing larger job loss. Male participants experienced statistically significantly higher employment effects in the eighth quarter following enrollment, while females experienced a slightly higher earnings impact, a difference which was only statistically significant at the .1 level. This is surprising considering

that females were observed to be much more likely to participate in training programs in health care, an industry with a large impact on earnings.

Education. Education effects were larger for individuals without a bachelor's degree coming into the program. Across all three outcomes, the impact was largest for people with some post-secondary education. For those with a bachelor's degree, there were no statistically significant impacts on employment or earnings. Although this was somewhat driven by a smaller sample size, the earnings impact estimate was only $517 in the second year following enrollment, less than a quarter of the other two education groups. This may reflect a greater ability of individuals with a bachelor's degree to find well-paying employment without the training programs.

Timing of enrollment in relation to COVID-19 pandemic. Participants who completed America's Promise before the onset of the COVID-19 pandemic in the United States experienced slightly larger employment impacts than those who were still enrolled at the time (although both groups experienced positive impacts). However, their earnings effects were more than twice as large ($5,131 relative to $2,282). Those effects may reflect the state of the labor market at the time they completed the program or the changes made to training programs during the pandemic. For the 303 participants who enrolled in the program following the onset of COVID-19, there were no statistically significant employment or earnings effects. Although this lack of effect partially reflects the small sample size, this group also had substantially more variation in earnings than other groups (as reflected in the standard error of the earnings estimate). This outcome likely reflects the variation in training programs and labor markets experienced by participants following the COVID-19 pandemic, as described during virtual site visits.

D. Sensitivity analyses

To test the sensitivity of our impact estimates to the design decisions that we made, we estimated impact results using a range of alternative methods. To test the sensitivity of results to the method we used to estimate propensity score, we replicated analyses using two additional propensity scores and estimated them using BART and TWANG (Appendix Exhibit A.12). To test the sensitivity of results to the method we used to match treatment group members to similar comparison group members, we estimated two alternative models. First, we adjusted to caliper to be .2 standard deviations of the logit of the propensity score, which is twice as large as the primary model. We estimate impact results for each of the three propensity score estimation methods using a caliper of .2 standard deviations of the logit of the propensity score (Appendix Exhibit A.12). Second, we used an alternative method of propensity score matching called nearest neighbor matching, in which each treatment group member is matched to the comparison group member with the closest propensity score to their own (Appendix Exhibit A.13). Our next sensitivity analysis addressed the fact that some Wagner-Peyser participants received unemployment insurance for the first time in the first quarter following enrollment. Although it is possible this was driven by shocks that occurred following program enrollment, it is also possible that these participants joined Wagner-Peyser in response to an anticipated earnings shock or a delay in their receipt of unemployment insurance benefits. Therefore, we estimated impacts removing all Wagner-Peyser participants whose first unemployment insurance receipt was in Quarter 1 (Appendix Exhibit A.14). To address the possibility of match-specific factors, we additionally run an analysis including match-specific fixed effects as controls (Appendix Exhibit A.15). Finally, we estimated impacts removing incumbent workers (Appendix Exhibit

A.16). Technical Appendix Section G.4 presents the results of each of these sensitivity analyses for each confirmatory outcome. None of these estimates changes the key takeaways from the impact analysis that there were strong employment and earnings effects of America's Promise participation.

Exhibit V.6. Impact of participation in an America's Promise program on employment and earnings by subgroup

Subgroups	Sample size	Q4 employment Coefficient (F-stat)	Q4 employment Standard error	Q8 employment Coefficient (F-stat)	Q8 employment Standard error	Earnings in the second year following enrollment Coefficient (F-stat)	Earnings in the second year following enrollment Standard error
Industry	-	(94.7***)	-	(50.1***)	-	(117.5***)	-
Advanced manufacturing	2,103	0.06***	0.02	0.05***	0.02	$2,277**	$1,088
Health care	846	0.12***	0.02	0.08***	0.02	$6,441***	$833
Information technology	138	-0.01	0.04	0.04	0.04	$6,875**	$2,744
Other or unknown	355	-0.02	0.03	-0.01	0.03	-$1,383	$1,018
Employment status at program entry	-	(11.1***)	-	(8.8***)	-	(201.2***)	-
Unemployed	2,260	0.05***	0.02	0.04**	0.02	$1,531*	$853
Underemployed	1,247	0.07***	0.02	0.04*	0.02	$2,979**	$1,266
Incumbent worker	239	0.04	0.03	0.08***	0.02	$11,428***	$1,660
Gender	-	(0.7)	-	(37.8***)	-	(3.3*)	-
Male	1,458	0.05***	0.02	0.06***	0.02	$2,419**	$1,006
Female	2,288	0.06***	0.02	0.03*	0.02	$2,880***	$901
Race/ethnicity	-	(64.3***)	-	(46.4***)	-	(70.5***)	-
Black	1,223	0.02	0.02	0.02	0.02	$1,300*	$754
Hispanic	477	0.04	0.03	0.04	0.03	$2,470**	$1,063
White	1,583	0.08***	0.02	0.07***	0.02	$4,268***	$988
Other	463	0.08***	0.03	0.01	0.03	$1,384	$1,365
Education	-	(28.6***)	-	(16.3***)	-	(37.8***)	-
High school or less	2,095	0.04**	0.02	0.03**	0.01	$2,963***	$634
Some postsecondary	1,044	0.08***	0.03	0.06**	0.03	$3,431***	$1,175
Bachelor's degree or higher	607	0.06	0.04	0.06	0.03	$517	$2,965

Subgroups	Sample size	Q4 employment Coefficient (F-stat)	Q4 employment Standard error	Q8 employment Coefficient (F-stat)	Q8 employment Standard error	Earnings in the second year following enrollment Coefficient (F-stat)	Earnings in the second year following enrollment Standard error
Enrollment status at the start of COVID-19 pandemic in the US[a]	-	(28.5***)	-	(64.0***)	-	(167.2***)	-
Exited America's Promise prior to the start of COVID-19	1,083	0.08***	0.02	0.06***	0.01	$5,131***	$712
Enrolled in America's Promise at the start of COVID-19	2,360	0.06***	0.02	0.05***	0.02	$2,282***	$762
Enrolled in America's Promise following the start of COVID-19	303	0.01	0.08	-0.04	0.05	-$2,491	$5,309

Source: NDNH data matched to WIPS data. Data cover 2018Q4–2021Q2 in Virginia and 2018Q4–2022Q2 in all other states.

Notes: Employment is defined as having any earnings in a given quarter. For a detailed description of estimation methods, see the technical appendix.

[a] We define the start of the COVID-19 pandemic as April 1, 2020.

  * $p < .1$

 ** $p < .05$

*** $p < .01$.

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VI. Partnership-Specific Effects

To further understand the effect of participation in America's Promise programs, we estimated partnership-specific impacts on earnings and employment. The America's Promise partnerships varied in many ways: by industry of training, types of training, grantee type, types of partners, strength of partnerships as reported by site visit respondents, support services offered, and local labor market conditions. Given the small number (12 of 23) of partnerships we were able to evaluate and the large number of ways in which partnerships varied, it is statistically impossible for us to rigorously analyze which elements of programs led to higher or lower impacts. However, by estimating partnership-specific impacts, we can provide anecdotal evidence on the features of partnerships with higher and lower impacts. In this section we therefore present partnership-specific impacts that illustrate the range of impact estimates across partnerships. We also describe some of the salient characteristics of partnerships with higher and lower estimates to provide suggestive evidence on what worked in America's Promise training programs.

Key findings

- **Eight of the nine partnerships had a positive mean estimated impact on the earnings of America's Promise participants in the second year following program enrollment, and four had mean estimated impacts over $4,000.**

- **Of the nine partnerships, six had a greater than 75 percent chance of increasing employment in the fourth quarter following enrollment and seven had a greater than 75 percent chance of increasing employment in the eighth quarter following enrollment.**

- **There was no evidence that partnerships in certain industries or with certain grantee types had larger impacts than others.**

- **The partnerships with the largest estimated impacts all had experienced workforce partners with a history of delivering DOL grants and offered work-based learning opportunities.◢**

A. Methods for estimating partnership-specific effects

We estimated partnership-specific impacts for the nine America's Promise partnerships that were located primarily in one of our sample states from the impact study and had full data through the eighth quarter following program enrollment.[24] For each partnership, we analyzed the research questions listed in Exhibit VI.1.

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[24] Two partnerships were not primarily located in one of the impact states but enrolled some participants in one of the impact study's states. We included these partnerships in the pooled analysis but did not include them in the partnership-specific analyses because we do not believe these participants are likely to accurately represent the overall partnership. One additional partnership was excluded due to incomplete NDNH data for Virginia.

Exhibit VI.1. Partnership-specific impact study research questions

Question #	Partnership specific impacts research questions
Confirmatory research question for each partnership[a]	
P.1	Given the impacts of participation in the other America's Promise programs in the study, what is the mean estimated impact of participation in a program at each partnership on earnings in the second year following program enrollment?
Exploratory research questions for each partnership	
Compared with receipt of Wagner-Peyser services and given the impacts of participation in the other America's Promise programs in the impact study, what is the probability that participation in the individual America's Promise program improved the following outcomes?	
P.2a	Employment in the fourth quarter following program enrollment?
P.2b	Employment in the eighth quarter following program enrollment?
P.2c	Earnings in the fourth quarter following program enrollment?
P.2d	Earnings in the eighth quarter following program enrollment?
P.2e	Earnings in the two years following program enrollment?
Compared with receipt of Wagner-Peyser services and given the impacts of participation in the other America's Promise programs in the impact study, what is the probability that participation in the individual America's Promise program had the following impacts?	
P.3a	Improved employment by 5 percentage points or more in the fourth quarter following program enrollment?[b]
P.3b	Improved employment by 5 percentage points or more in the eighth quarter following program enrollment?[b]
P.3c	Improved earnings in the second year following program enrollment by $2000 or more?[c]
P.3d	Improved earnings in the second year following program enrollment by $4000 or more?[c]

Note: Any participant who enrolled in the America's Promise or Wagner-Peyser programs are considered to have participated, regardless of the services received.

[a] Confirmatory research questions describe the primary analyses, which will be used to assess whether there was an impact of program participation.

[b] A threshold of 5 percentage points was chosen based on Card et al. (2018), which estimated that the average impact of training programs on employment rates one to two years after program entry was 5 percentage points.

[c] Thresholds of $2,000 and $4,000 were chosen to represent approximately 10% and 20% increases in earnings from a base annual earnings amount of approximately $22,000, as observed in the data.

1. Bayesian methods

Given the limited number of participants at each partnership, our sample was not large enough for us to use a traditional frequentist approach to estimate partnership-specific impacts. All but one partnership contributed less than 600 participants to the impact study and half of partnerships contributed less than 150 participants (Exhibit IV.2). The frequentist approach requires each partnership's sample to be large enough to support a standalone analysis, which most partnerships are not. Bayesian methods are therefore better suited to our context because they allow us to estimate partnership-specific effects by assuming that our expectations of the impact estimates for each partnership can be informed by impact estimates for other partnerships (Gelman et al. 2012). However, it is important to keep in mind that for grantees with small sample sizes, much of the impact estimates are still driven by our expectations from other grantees.

To estimate partnership-specific impacts using a Bayesian model, we built off the frequentist impact estimates for each partnership. The Bayesian model uses Bayesian inference to assess how much the variation among estimates is due to noise versus the signal of true differences. To do this, Bayesian inference incorporates that signal or noise breakdown to yield more precise, less noisy estimates (Lipman et al. 2022). The model recognizes that the impact estimate for one partnership provides some information about the likely impacts for other partnerships (Gelman et al. 2012). It also recognizes that each impact estimate includes some noise (as reflected in its standard error), and the noisier an estimate for one partnership, the less it should inform other impact estimates, and, in turn, the more it should be informed by other impact estimates. This approach is sometimes referred to as "partial pooling" or "shrinking," because it shifts the impact estimates toward each other, but it still allows for the estimates to differ from each other (Gelman et al. 2012). By drawing on multiple sources of information, this approach can increase statistical power, yielding more precise estimates. It is important to consider that this means that impact estimates for partnerships with smaller sample sizes will be shrunk more towards prior estimates which may temper the effects of a strong program.

For the partnership-specific estimates, we used a two-stage hybrid frequentist-Bayesian estimation procedure (Lipman et al. 2022). In the first step, we estimated impacts for each partnership fitting the ordinary least squares regression model on the sample of America's Promise participants and the matched comparison group. This allowed for differential relationships between covariates and outcomes for each partnership sample, while estimating separate impacts for each partnership as well. In the second stage, we used a Bayesian hierarchical model to further refine these estimates. The model treats each partnership's impact estimate as being composed of some true overall effect of America's Promise, a partnership-specific true differential impact, and sampling error. In this way, Bayesian shrinkage causes individual partnership estimates to shift closer to the overall impact when the estimate is noisier (that is, have a higher standard error). In addition, all estimates are shifted closer to the overall impact when we believe, either based on model estimates or prior studies, that the variance of true impacts of America's Promise partnerships is small.

In contrast to most commonly used models, known as frequentist models, Bayesian models do not begin with the assumption that we know nothing about the likely impact of programs before we see the data. Instead, they rely on estimates of the likely or credible set of impacts, which are known as priors (Zyphur and Oswald 2015). The prior is developed based on the distribution of estimates of the impacts of other similar programs and is used to inform our expectation of program effects. We therefore also used Bayesian inference to shift estimates based on what we already know about similar programs. We relied on a Bayesian meta-analysis of the Pathways to Work Evidence Clearinghouse (Shiferaw and Thal 2022) to inform the priors for this model. This means that our expectations on the impacts of America's Promise were informed by a large number of impact estimates from other studies of similar programs. Using priors in a model also lends itself to more intuitive interpretation of results. In contrast to frequentist models, Bayesian results are interpretable as the probability that the true impact falls within a given range. We therefore present results for partnership-specific impacts as the probability that each partnership increases earnings and employment by at least a set of thresholds.

For the precise specifications of the priors and additional details on the Bayesian model used, see section H of the technical appendix.

2.   Sample balance

Like the pooled impact estimates, the partnership-specific impact estimates rely on the assumption that in the absence of the America's Promise program, outcomes would have been similar between the treatment and matched comparison group. Although we cannot test this assumption directly, we can compare the observable characteristics of the treatment and comparison groups to assess their similarities. In Chapter IV, we established that the two groups were very similar in the pooled group of partnerships. However, it is possible that larger differences occur within partnerships. We assessed this by comparing the demographic characteristics and pre-enrollment labor market outcomes between the treatment and matched comparison groups within each partnership. Like with the pooled samples, we compared the standardized mean differences between the treatment and comparison groups. We used a benchmark of .25 to represent meaningful differences between groups.[25]

Within partnerships, the differences between the treatment and matched comparison groups were more pronounced than within the pooled samples and varied among partnerships. We analyzed 25 covariates across the nine partnerships, leading to 225 unique combinations. Appendix Exhibit A.17 presents the standardized mean differences for each of the partnerships and covariates. Looking at the standardized mean differences between treatment and comparison groups for each unique combination, 82 percent fall within our target range of within .25. Three covariates—the indicator for having a high school diploma or less, earnings in the third quarter prior to enrollment, and employment in the third quarter prior to enrollment—have standardized mean differences that exceed the threshold of .25 for four or more partnerships. Some partnerships have treatment and comparison groups that are particularly different. Four partnerships have at least six covariates for which the standardized mean differences between treatment and comparison group are greater than .25. In contract, four different partnerships each have two or fewer, suggesting that for these partnerships, the comparison group may be a more accurate representation of the true counterfactual outcomes for America's Promise participants. We did not find that impact estimates are systematically larger or smaller for the partnerships with worse sample balance. Section H.3 of the appendix provides additional details on the partnership-specific sample balance.

B.   Estimates of partnership-specific effects

The partnership-specific analyses showed strong positive estimated impacts of most of the partnerships on labor market outcomes.

Earnings. We begin with our confirmatory outcome, the impact on earnings in the second year following program enrollment. The Bayesian impact estimates on earnings in the second year following enrollment ranged from -$676 to $7,962 for the nine partnerships analyzed, with all but one (Partnership 2) having a positive mean estimated impact. Exhibit VI.2 visualizes the range of estimates, with the box representing the 75 percent confidence range, the inside line representing the mean, and the tails representing the 95 percent confidence range. Because we estimated impact estimates using Bayesian methods, this can be interpreted as there being a 75 percent chance the true impact is within the boxed range and a 95 percent chance it is between the two tails. Therefore, this graph demonstrates the high likelihood that the strongest America's Promise programs had large impacts on earnings. Four partnerships had a 90 percent

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[25] Based on What Works Clearinghouse guidelines (What Works Clearinghouse, 2002).

or greater chance of having at least a $2,000 impact on earnings in the second year following enrollment (not shown in exhibit), which as discussed in Chapter IV, puts these programs among the most effective training programs (Shiferaw and Thal 2022).[26] Four partnerships had a mean estimate of over $4,000 and three of these four partnerships also had a greater than 90 percent chance of having at least a $4,000 impact. For context, this is approximately half of the difference in annual earnings between people with an associate's degree and those with only a high school diploma in the United States (U.S. Bureau of Labor Statistics 2022).[27] In Appendix Exhibit A.18, we estimate the impacts of each partnership on earnings in the first two years following program enrollment and find similar results.

Exhibit VI.2. Partnership-specific estimates of the impact of America's Promise on earnings in the second year following program enrollment

Impact on earnings in the second year following America's Promise enrollment

Source: NDNH data matched to WIPS data.

Notes: We calculated estimates using a two-stage hybrid frequentist Bayesian model that estimates the posterior distribution of impact estimates by partnership. The box depicts the inner 75 percent of the distribution, and the tails represent the inner 95 percent of the distribution. Because these are Bayesian estimates, this can be interpreted as there being a 75 percent chance the true effect falls within the box and a 95 percent chance the true effect falls within the tails. The middle line represents the mean estimated impact. For a detailed description of estimation methods, see section H of the technical appendix.

Employment. The America's Promise partnerships also demonstrated a strong positive impact on the employment of America's Promise participants. Exhibit VI.3 illustrates the estimated impacts of each partnership on employment in the fourth and eight quarters following enrollment. Like with earnings, the boxes represent the 75 percent confidence range, the inside line represents the mean, and the tails represent the 95 percent confidence range. Of the nine partnerships, 8 had a mean estimated impact over

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[26] Appendix Exhibit A.19 lists the probability that each grantee's impact exceeds the $2,000 and $4,000 annual earnings thresholds.

[27] Based on weekly earnings data from the 2021 Current Population Survey for full-time wage and salary workers age 25 and over. Average annual earnings are $50,076 for people with an associate's degree and $42,068 for people with a high school diploma (U.S. Bureau of Labor Statistics 2022).

0 in quarter 4, meaning that there is a greater than 50 percent chance that they improve employment. Of these, 6 had a greater than 75 percent chance of increasing employment (Appendix Exhibit A.19). Three partnerships had a greater than 50 percent chance of having at least a 5 percentage point impact on employment in the fourth quarter. In the eighth quarter following enrollment, 7 partnerships had a positive mean estimated impact, and all 7 also had a greater than 75 percent chance of increasing employment.

Exhibit VI.3. Partnership-specific estimates of the impact of America's Promise on employment in the fourth and eighth quarters following program enrollment
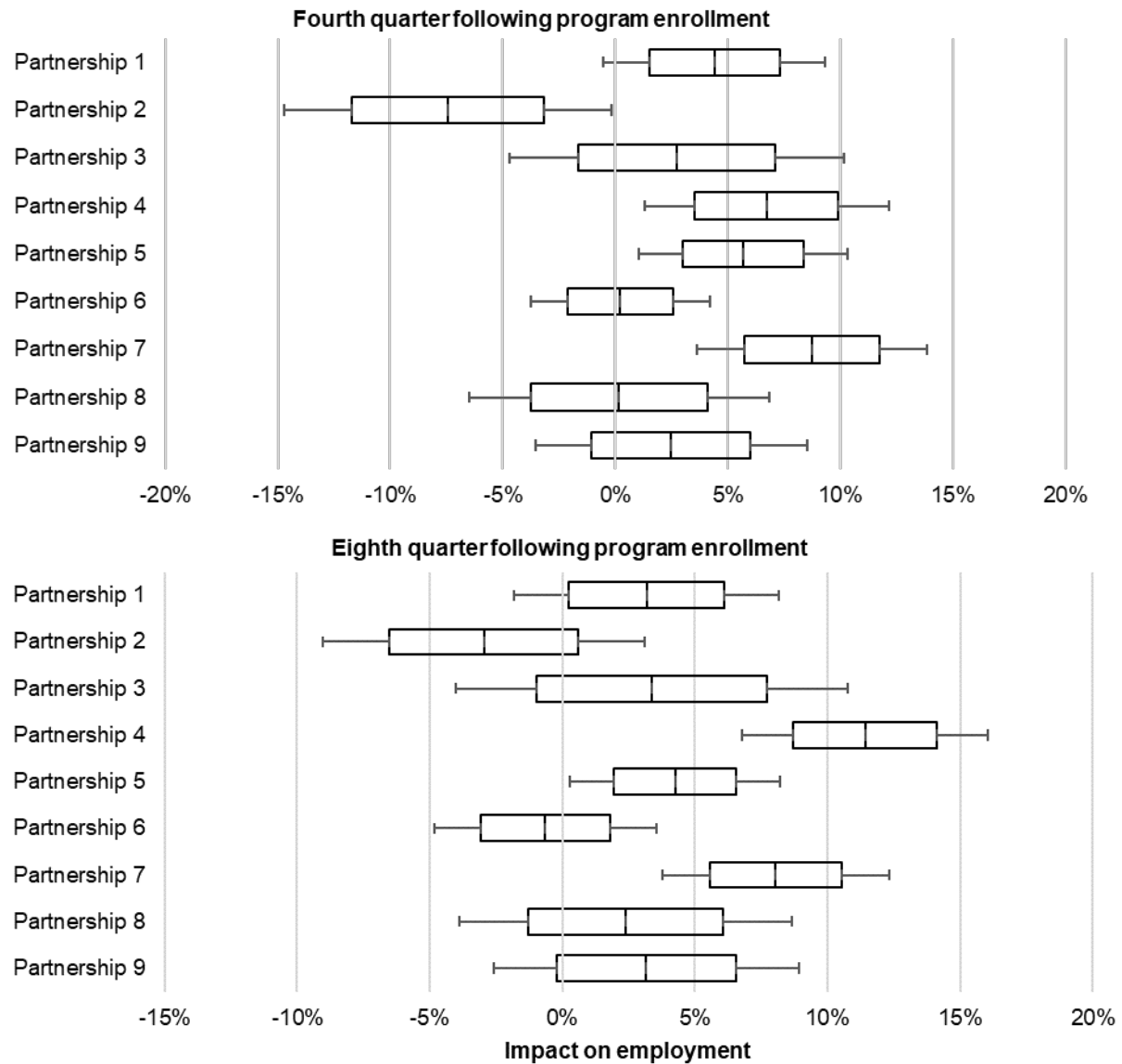
Source: NDNH data matched to WIPS data.

Notes: We calculated estimates using a two-stage hybrid frequentist Bayesian model that estimates the posterior distribution of impact estimates by partnership. The box depicts the inner 75 percent of the distribution, and the tails represent the inner 95 percent of the distribution. Because these are Bayesian estimates, this can be interpreted as there being a 75 percent chance the true effect falls within the box and a 95 percent chance the true effect falls within the tails. The middle line represents the mean estimated impact. For a detailed description of estimation methods, see section H of the technical appendix.

C.   Interpreting partnership-specific effects

The partnership-specific impact results reveal substantial variation in the estimated impacts of programs. At the bottom of the range, at least one partnership has a negative estimated impact, suggesting that there is a greater than 50 percent chance that participation actually lowered employment and earnings (Exhibit VI.2). On the higher end, some of the partnerships have mean estimated impacts that are considered high for employment services. In a meta-analysis of active labor market policies, Card et al. (2018) estimated that the one- to two-year impacts are centered around 3 to 5 percentage points, meaning that the strongest partnership impacts are higher than most similar programs. This may represent strong individual programs, as well as the sector-based training model. As discussed in Chapter V, 5 percentage points is approximately equivalent to the difference in employment rates between people with a bachelor's degree and people with an associate degree.

The partnership-specific impact estimates did not reveal any noticeable patterns by training industry or grantee type, two of the defining features of the partnerships. Of the four partnerships with the highest mean estimated impacts on earnings, their programs cover all three of the largest America's Promise training industries. Similarly, the four partnerships with the highest estimated impacts on earnings represent two education and training organizations and two workforce organizations. This demonstrates no single grantee model worked for America's Promise programs, but rather that a partnership's success depended on the implementation of the programs.

Three partnerships stood out as having very strong mean earnings impacts and high probability of increasing employment—Partnerships 4, 7, and 9. A unifying feature of these three partnerships is that all three included workforce board partners with a history of delivering DOL grants. These workforce boards were likely able to help grants effectively target services to the local population and promote collaboration between partners. All three also emphasized work-based learning elements of their training programs, which relied on strong partnerships with employers.[28]

Analyzing partnership-specific effects also helps to understand how barriers partnerships faced translated to the outcomes of their participants. In particular, one partnership stood out as having negative earnings impacts and a low likelihood of improving earnings—Partnership 2. This partnership experienced a significant setback to its training program during the impact study period. Its primary employer partner experienced a recall of its most popular product, leading to significant financial distress, disruptions to operations, and layoffs. The central employer from the partnership reported that America's Promise participants were some of the company's newest employees and therefore were particularly likely to be to laid off.[29] It is also worth noting that Partnership 2 was one of the four partnerships with weaker sample balance; some of this negative impact could have been driven by unobserved differences in the treatment and comparison samples.

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[28] To assess whether high impact estimates were driven by lower wages in the counterfactual, we reviewed the average earnings among the comparison group in the second year following enrollment. We found that earnings for the comparison group were slightly higher for partnerships with larger earnings impacts, suggesting impacts were driven by higher earnings among participants rather than lower earnings among the comparison group.

[29] Based on conversations with grantee staff conducted as part of the implementation study.

Finally, all partnership effects should be interpreted in the context of the small samples on which these impacts are estimated. The Bayesian methods allow us to provide informative estimates despite the small sample sizes for many of the partnerships. However, in the case of small sample sizes, this means more heavily relying on the assumption that impact estimates from other partnerships inform our expectations of the impact of each partnership. To the extent that one or more partnerships' impacts diverge substantially from other programs, this may not be captured when sample sizes are small.

VII. Conclusion

The America's Promise grants aimed to fund a series of sector-based training programs led by strong partnerships. Trainings were designed to prepare participants for a career in a high-growth industry with room for upward mobility (DOL 2016). Among participants in program years 2017, 2018 and 2019, 80 percent completed a training program, and 75 percent received a credential or certificate that may improve their future employability. All partnerships offered participants job development and placement services which were developed with the employer partners. To understand how participants experienced this program, this evaluation assessed the employment and earnings of the America's Promise participants following enrollment.

Our outcomes study finds that earnings and employment for America's Promise participants increased in the first quarter following enrollment, an increase that persisted through the fourth quarter. Employment levels for America's Promise participants were observed to increase by 8 percentage points by the fourth quarter following enrollment, before slightly dropping as each of the cohorts experienced the onset of the COVID-19 pandemic. Average quarterly earnings for participants increased steadily following enrollment. By the fourth quarter post-enrollment, participants were making approximately $2,500 more per quarter, and by the 16th quarter following enrollment, participants' earnings had increased by approximately $5,000 per quarter.

The study findings provide strong support for the effectiveness of the America's Promise programs in increasing employment and earnings. Our impact study findings show a consistent pattern in which America's Promise participants benefitted, relative to their comparison counterparts. These benefits emerge starting in the first quarter after program enrollment and persist through the end of the two year follow up period. By the fourth quarter following enrollment, participants were 6 percentage points more likely to be employed than the matched comparison group of individuals who received only basic employment services through the Wagner-Peyser program. Similarly, America's Promise led to a $2,697 increase in annual earnings for participants in the second year following enrollment, approximately 16 percent more than our estimates of their counterfactual earnings. Not all programs had the same impact on participants, as shown in the partnership-specific impact estimates. While some partnerships had impact estimates suggesting a large positive impact, others showed little likelihood of improving employment and income. These estimates reflected the successes and challenges that faced the programs. While some programs had strong partnerships and produced a strong pipeline to employment, others faced unexpected setbacks.

These findings, combined with those from an implementation study of the America's Promise program (English et al. 2022a), bolster our understanding of the ability of sector-based training programs to set unemployed or underemployed people on a pathway to higher earnings. Although the America's Promise impact evaluation cannot determine which element or combination of elements were the most important to program success, it provides clear evidence that the set of services programs offered were effective in improving participants' employment and earnings. The magnitude of the impact estimates is larger than for most impact estimates for employment services (Card et al. 2018; Shiferaw and Thal 2022). The impacts found in this study are closer to some recent estimates of the impact of sector-based training programs (Katz et al. 2022). However, other recent evaluations of sector- based training programs have

not found positive impacts, suggesting that program design elements and participants served are important in determining success, even within sector-based training programs (Peck et al. 2021). This suggests that future programs should also consider implementing other promising elements of America's Promise programs. English et al (2022a) find that successful programs shared four key program elements that allowed them to meet their participants needs and may be promising strategies to consider for future programs.

- **Partnerships with strong employer involvement**. Programs were most successful when partnership staff worked closely with employer partners to ensure that training programs met the employer's needs, provided work-based learning opportunities, and offered employment opportunities for participants.

- **Training in middle- to high-skilled jobs**. Occupational training programs in target industries prepared participants for occupations that required a specialized skill set and paid at least a living wage.

- **Work-based learning.** In addition to classroom-based trainings, most programs provided participants with the opportunity to learn in a workplace. This gave participants practical experience in their target occupation and allowed them to develop relationships with potential employers.

- **Wraparound services.** To ensure participants could successfully complete trainings, programs provided a range of supportive services. These included services such as child care, transportation, mental health services, technology assistance, and food assistance.

However, it is important to interpret results in the context in which the impact results were estimated. The impact study sample of participants entered an America's Promise program between July 2019 and June 2020. Therefore, the two years following their enrollment in the program were heavily impacted by the COVID-19 pandemic and its effects on the labor market. Results from the impact study show that the matched comparison group experienced a drop in earnings and employment at the onset of the pandemic. While participants in America's Promise were also affected by the pandemic, the effect appears to have been mitigated by their participation in the program. This provides important evidence of the role that programs like America's Promise can play during economic downturns. On the one hand, most partnerships were able to connect participants to employers who continued to have demand for employees through the pandemic. However, as demonstrated in the partnership-specific results, programs with trainings designed specifically for an employer that experienced a negative shock, could lead to zero or adverse impacts for participants. It is also important to remember that given the unique nature of our study period, it is possible that the impact estimates do not reflect the impact of America's Promise in the other years of the program.

It is also important to consider the study design in interpreting the impact estimates. The comparison group in this study is comprised of participants in the Wagner-Peyser program who were similar in demographics and employment history to America's Promise participants. Participants in the Wagner-Peyser program received light touch employment services and were unlikely to receive occupational training. However, it is possible that there are unobserved differences between the treatment and comparison group which impact outcomes.

While this study provides important evidence on the potential for sector-based training programs to improve the earnings and employment of unemployed and underemployed workers, future research can

build on this study to bolster our understanding of the impact of America's Promise and similar programs. First, America's Promise impacts were estimated during a unique labor market. Future research is needed to understand how these impacts would translate to other labor markets. Second, this study was limited to the impact of program participation in the two years following program enrollment. Future research could expand on this by extending the study period to better understand the long-term impacts of program participation. Next, additional research is also needed to better understand how each component of the America's Promise program related to the success of the program. Finally, future research should consider the cost of running training programs to better understand the cost effectiveness of the programs.

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TECHNICAL APPENDIX

A. Introduction

The America's Promise evaluation aimed to study the impact of the America's Promise Job-Driven Training Grants program on participants' employment-related outcomes. Specifically, we estimated the extent to which America's Promise improved participants' earnings and employment, both by pooling across partnerships and for each partnership individually. To achieve this, we compared outcomes of America's Promise participants to a matched subset of Wagner-Peyser participants with similar characteristics and employment histories. We used data from Program Year (PY) 2019 America's Promise participants from 12 partnerships and states and the matched comparison group of Wagner-Peyser participants. Because the sample included in the impact study is only a subset of participants, we also conducted a broader study of outcomes for America's Promise participants across more program years (2017-2019) and partnerships.

We used a matched comparison design for the impact evaluation. Because enrollment in the America's Promise and Wagner-Peyser programs was a nonrandom process, systematic differences between the study groups exist, which can lead to biased impact estimates in unadjusted comparisons of outcomes, a phenomenon known as confounding. To account for the observable differences between the America's Promise and Wagner-Peyser participants, we selected Wagner-Peyser participants who were similar to America's Promise participants on demographic characteristics, earnings and employment histories, and geographic and economic context. This enabled us to produce causal, unbiased estimates of the impacts of America's Promise on participant outcomes under the assumption of no confounding by unobserved factors, such as unobserved difference in motivation or ability between the two groups. Matching was performed using propensity scores, which model the probability of being assigned to the intervention group based on participant and contextual factors.

Due to the limited availability of personal identifiable information to link Wagner-Peyser participants with their respective earnings and employment data, a two-stage approach was required for forming the study groups. In the first stage, we identified a large pool of Wagner-Peyser participants from which a comparison group might be drawn and prioritized obtaining personally identifiable information and labor market data for this subset of Wagner-Peyser. We termed this the potential match pool. In the second stage, we incorporated the earnings and employment data we collected and estimated the propensity scores and matched Wagner-Peyser participants from the potential match pool to America's Promise participants, forming our final comparison group and analytic sample.

Regression modeling was used to estimate impacts in the final matched sample for a number of labor market outcomes, including earnings, employment, receipt of unemployment insurance, and number of jobs worked. We further analyzed impacts separately by America's Promise partnership, using Bayesian methods to increase precision of the partnership-specific effects.

The outcomes study covered all partnerships and program years in which America's Promise programs operated. The outcomes study describes the employment and earnings trends for participants relative to their date of enrollment in America's Promise. We discuss adjustments to account for limited data availability. We also describe the program completion and credential attainment rates for America's Promise participants.

This appendix provides supplemental material to the America's Promise Job-Driven Training Grants Impact Evaluation (Spitzer et al. 2023). Section B provides an in-depth description of the data sources. Section C describes the methods used in the outcomes study (Chapter III in the main report) and provides supplemental tables on the outcomes sample. The rest of the appendix provides supplemental material for the impact study. Section D describes the impact study population. Section E provides details on the matched comparison methods used in the impact study. Section F described the outcomes analyzed. Section G describes the methods used for the cross-site analyses and presents results from sensitivity analyses. Section H describes the methods used for the partnership-specific analyses. Section I presents supplemental findings from the partnership-specific analyses.

B. Data sources

1. Workforce Integrated Performance System

The Workforce Integrated Performance System (WIPS) is a centralized database that contains data on participants in workforce programs funded by the U.S. Department of Labor, including America's Promise and Wagner-Peyser employment services. It was created in 2016 to collect standardized data on all programs and participants. The WIPS data contain participant characteristics, including demographic information (such as age, race, education level, disability status) and some prior employment data. It also includes data collected quarterly on employment and training services received, training completed, and certificates received.

We obtained WIPS data for all individuals who enrolled in America's Promise and for individuals who enrolled in Wagner-Peyser between 2016 quarter (Q) 3 and 2020 Q2 (PY 2016–2019). The data was used to measure background characteristics for both the America's Promise and Wagner-Peyser groups (a crucial component of the study's matching design), defining subgroups for analysis, dates of program entry and exit, training programs, services received, and completion rates. The data also included Social Security numbers (SSNs) for America's Promise participants but not for Wagner-Peyser participants. For the America's Promise sample, we were therefore able to match the SSNs to participants' earnings and employment data. The WIPS data we obtained for Wagner-Peyser participants contain unique participant identifiers but do not contain SSNs or other personally identifiable information that could be used to collect earnings and employment data. We negotiated with states to provide the SSNs based on the WIPS identifiers. It was not feasible to collect this information for all Wagner-Peyser participants in impact study states. Therefore, we identified a subset of Wagner-Peyser participants and asked participating states to share only those SSNs, as described in Appendix Section C.

2. National Directory of New Hires

Employment and earnings data are drawn from the National Directory of New Hires (NDNH) database, which is maintained by the Office of Child Support Services, Administration for Children and Families, U.S. Department of Health and Human Services. It contains information on quarterly earnings and unemployment insurance benefits, submitted from state unemployment insurance systems and the federal government's employment records (Solomon-Fears 2011). It also includes de-identified employer identification. At any given time, the NDNH database includes approximately two years of earnings data.

Data from previous years are deleted. We obtained NDNH data for America's Promise participants using participant SSNs and for selected Wagner-Peyser participants by first name, last name, and SSN.

NDNH data cover most, but not all, wage and salary employment. In particular, NDNH data does not cover self-employed workers (including employees classified as independent contractors), railroad employees, most agricultural labor, and part-time employees of nonprofit organizations (DOL et al. 2014). In the past, these sectors have made up about 10 percent of U.S. employment (Kornfeld and Bloom 1999; Hotz and Scholz 2002). NDNH data also exclude workers whose employers do not report their earnings to their unemployment insurance agency, even in the formal sector, because of the prevalence of flexible staffing arrangements or illegally neglecting to report—including, for example, some workers employed by relatives and domestic service workers (Abraham et al. 2018; Katz and Krueger 2019). In addition, NDNH data do not cover workers who are casually employed, such as day laborers or part-time helpers, and exclude most gig economy work (Abraham et al. 2018; Katz and Kruger 2019).

Although NDNH data contain information on quarterly employment and earnings, they do not contain information on specific job characteristics, such as hours worked, hourly wage rates, available fringe benefits, and occupations. Thus, the study cannot estimate outcomes on the occupations or industries of jobs that participants had.

Our analysis is further limited by the timing of NDNH data availability. The Office of Child Support Services destroys NDNH data after two years, so we were not able to collect a full history of NDNH data. Therefore, to maximize the data coverage, we collected 10 excerpts from the NDNH database, covering 2018 through 2022. However, because of data availability, not all participants were included in all excerpts. Exhibit A.1 lists the dates and coverage of each of the 10 pulls. We submitted our first request for outcome study data in March 2020 for participants who enrolled in America's Promise by the second calendar quarter of 2019. We therefore do not have pre-program data for participants who enrolled in early quarters of America's Promise. Exhibit A.2 shows the available data for each cohort included relative to the quarter of program entry. For example, for PY2018 Q2, we had NDNH data available starting four quarters prior to program entry and ending 15 quarters following program entry.

Exhibit A.1. National Directory of New Hires submissions

Number	Submission date	AP program years covered	WP program years covered	Data start date	Data end date
1	3/9/2020	PY2017–PY2018	N/A	2018Q1	2019Q3
2	4/29/2020	PY2017–PY2019 Q1	N/A	2018Q1	2019Q3
3	9/30/2020	PY2017–PY2019	N/A	2018Q3	2020Q1
4	10/2/2020	N/A	PY2017–PY2019	2018Q4	2020Q2
5	10/23/2020	N/A	PY2017–PY2019	2018Q4	2020Q2
6	12/18/2020	N/A	PY2017–PY2019	2018Q4	2020Q2
7	3/15/2021	PY2017–PY2019	All	2019Q1	2020Q3
8	9/14/2021	PY2017–PY2020 Q3	All	2019Q3	2021Q1
9	9/7/2022	All	All	2020Q3	2022Q1
10	2/23/2023	All	All	2021Q1	2022Q3

AP = America's Promise; PY = Program Year; Q = quarter; WP = Wagner-Peyser; N/A = not applicable.

Of the America's Promise participants in the WIPS data, we received data on SSNs for 94 percent of them. These participants were all submitted to the NDNH for data collection. Of the SSNs of America's Promise participants submitted, we received NDNH data on 97 percent of participants. The remaining participants were unmatched for one of two reasons. First, we may have inaccurate SSN data. Second, it is possible the participant had no earnings reported in any quarter. Because we are unable to distinguish between these two scenarios, we dropped all participants from the sample for whom we received no NDNH data (including wages, unemployment insurance, or hiring records) from analyses of employment and earnings.

Exhibit A.2. National Directory of New Hires data coverage, by program quarter of entrance
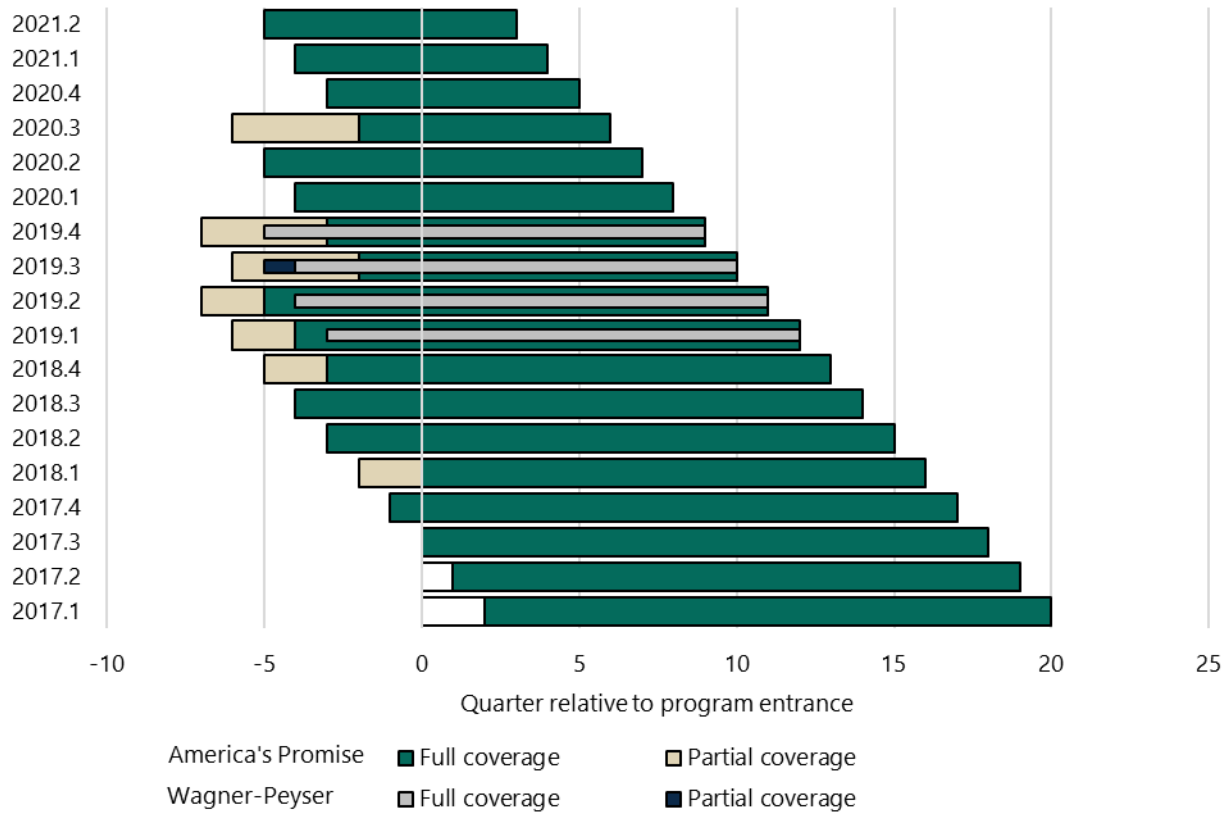
Note: Full coverage is defined as data collected for at least 96 percent of the final sample. Partial coverage is defined as data collected for at least 75 percent but less than 96 percent of the sample.

C.   Outcomes study methods

Our outcomes study describes the employment and earnings outcomes of participants in America's Promise who entered the program in PY 2017–2019. Our primary outcome estimates show unadjusted averages for all variables. However, as discussed in section B, due to the timing of data collection, our set of available relative quarters of data varies by program year quarter of entrance. Exhibit A.3 shows how the share of participants with data in each relative quarter changes for each program year. This impacts the composition of participants in each quarter; in Q-4 (the fourth quarter prior to program entrance), over 63 percent of the sample is from PY2019, while in Q10 the sample includes no PY2019. We therefore also present regression-adjusted averages, which control for sample composition. This enables us to remove differences that are driven by observable differences in sample composition.

Exhibit A.3. Share of America's Promise participants represented in each follow-up period

Relative quarter from start of program enrollment	Share of participants across all program year cohorts	Share of participants in the 2017 program year cohort	Share of participants in the 2018 program year cohort	Share of participants in the 2019 program year cohort
-4	48%	0%	50%	92%
-3	55%	0%	70%	94%
-2	66%	0%	98%	95%
-1	75%	27%	99%	96%
0	86%	60%	100%	96%
1	93%	80%	100%	98%
2	100%	100%	100%	100%
3	100%	100%	100%	100%
4	100%	100%	100%	100%
5	99%	100%	100%	98%
6	99%	100%	100%	98%
7	99%	100%	100%	97%
8	99%	100%	100%	96%
9	98%	100%	99%	95%
10	93%	100%	97%	82%
11	84%	100%	96%	56%
12	76%	100%	95%	31%
13	96%	98%	94%	0%
14	84%	96%	73%	0%
15	68%	94%	45%	0%
16	58%	92%	26%	0%
17	91%	91%	0%	0%
18	64%	64%	0%	0%
19	34%	34%	0%	0%

Source: NDNH data matched to WIPS data.

Note: The total sample size across all program year cohorts is 23,608, and is 7,719 for program year 2019, 8,288 for program year 2018, and 7,601 for program year 2017.

Methods for adjusting for sample composition

We report regression-adjusted averages of employment, earnings, and unemployment insurance benefits measures by quarter relative to program enrollment for the full sample of America's Promise (participants enrolled in either PY 2017, 2018, or 2019). To do this, we fit a generalized estimating equation model to each of the earnings, employment, and unemployment insurance benefits measures. Each model includes the following indicator variables as covariates: age group, gender, race and ethnicity, education level, self-reported employment status at time of program enrollment, eligible veteran status, ex-offender status, disability status, the industry of the America's Promise training program, the partnership that serviced participants, and the quarters relative to program enrollment. The model uses the fourth quarter after enrollment as the reference quarter because it contains the highest share of America's Promise

participants (see Exhibit A.2 for the share of America's Promise participants represented in each follow-up period). The estimated coefficients on the quarters relative to program enrollment thus represent the adjusted change in the earning or employment measure relative to the fourth quarter after enrollment. For the continuous earnings measure, the adjusted mean in quarter X equals the sum of the unadjusted mean in Q4 and the estimated coefficient from the quarter X indicator in the model. For the binary employment and unemployment insurance benefits measures, the adjusted mean in quarter X equals the product of the unadjusted mean in Q4 and the risk ratio scale for quarter X (a function of the estimated coefficient from the quarter X indicator in the model).

We calculated unadjusted averages of employment, earnings, and unemployment insurance benefits measures by quarter relative to program enrollment for a sample of America's Promise participants enrolled in either PY 2017, 2018, or 2019 who we observed in each quarter from the quarter before program enrollment to the eighth quarter from program enrollment. We do not report plots of these averages, because they follow the same trajectory as the plots shown in Chapter III.

Sample

The outcomes study covers America's Promise participants who enrolled in PY 2017–2019. To ensure that we are not missing outcomes for participants who are still working on training, WIPS service receipt outcomes are limited to participants who have already exited the program. There is one partnership who did not report training completion data for most participants. This resulted in another 4,687 participants being excluded from the analysis. Employment and earnings outcomes from the NDNH data were also limited to individuals who were matched to the data, as described in Section B. Exhibit A.4 describes the characteristics of the samples.

Exhibit A.4. Outcomes sample characteristics

Characteristic	WIPS outcome sample	NDNH outcome sample
	Value (percentage if not otherwise specified)	Value (percentage if not otherwise specified)
Sample size (count)	18,589	23,608
Age	-	-
19 or younger	9.0	8.2
20–24	22.7	22.3
25–29	18.7	18.9
30–34	14.0	14.1
35–39	10.6	10.1
40–44	7.3	7.3
45–49	6.8	6.9
50 or older	10.9	12.3
Female	47.7	48.0
Race and ethnicity	-	-
Hispanic	12.8	14.2
White, non-Hispanic	46.5	46.5
Black, non-Hispanic	27.4	26.0

Characteristic	WIPS outcome sample	NDNH outcome sample
	Value (percentage if not otherwise specified)	Value (percentage if not otherwise specified)
Other race, non-Hispanic	13.3	13.4
Education level	-	-
No high school diploma or GED certificate	0.0	0.1
High school diploma or GED certificate	52.3	51.2
Some postsecondary education	30.5	30.6
Bachelor's degree or more	17.0	18.1
Employed at program entry	48.7	46.9
Eligible veteran	4.9	3.9
Criminal justice involvement	5.3	4.4
Disability	3.5	3.4

NDNH = National Directory of New Hires; WIPS = Workforce Integrated Performance System.

Values do not add to 100% because of rounding.

Subgroup analyses

We also report program completion and regression-adjusted averages of employment and earnings measures for the quarter of program enrollment, and for the fourth, eighth, and twelfth quarters after program enrollment, separately for each key subgroup (Exhibits III.5, III.8, and III.13). Exhibit A.5 presents the list of subgroups analyzed and the rationale for their inclusion.

Exhibit A.5. Rationale for key subgroups

Subgroup	Rationale
Program year of enrollment	Program features and economic conditions varied from year to year. If so, this would mean America's Promise participants had different program experiences based on the program year of enrollment (2017, 2018, or 2019). Also, the share of America's Promise participants represented across follow-up periods varies based on the program year of enrollment. Examining the experiences of America's Promise participants separately by program year of enrollment leads to a more stabled sample of participants across follow-up periods. Lastly, because the impact study will examine only participants in Program Year 2019, it is useful to compare how their experiences compare to the larger pool of participants.
Whether participants had an expected program completion before the onset of the COVID-19 pandemic (before March 2020)	The COVID-19 pandemic likely disrupted the operations of America's Promise programs. America's Promise participants who were enrolled in an America's Promise program at any time on or after the onset of the COVID-19 pandemic likely had a different experience relative to participants who were expected to complete an America's Promise program before the start of the pandemic.
Grantee type	The institution of the grantee (business intermediary, education/training, or workforce) could influence program features.
Sector of training program	Program features are likely to look very different between sectors (advanced manufacturing, health care, Information technology, and other).
Gender	Program experiences may look different between female and male participants to the extent that gender is associated with the sector of a training program.
Employment status at the start of program enrollment	Whether a participant is employed at the start of the program enrollment may determine what type of services to offer the participant.

Subgroup	Rationale
Race and ethnicity	Program experiences may look different between race/ethnicity (Hispanic, White, Black, and other) to the extent that race/ethnicity is associated with the sector of a training program.

D. Impact study population

1. Selection and recruitment of states for the impact study

The success of the America's Promise impact study design hinged crucially on obtaining the cooperation of state workforce agencies. Linking the NDNH and WIPS requires participants' personally identifiable information. For America's Promise participants, grantees were required to submit an SSN for each participant; this was used to link the WIPS and NDNH data. However, SSNs were not available for members of the impact study comparison group (the Wagner-Peyser participants); the WIPS data included only identifiers used within the workforce system. We therefore conducted outreach to state agencies to obtain crosswalks between comparison group members' WIPS identifiers and their names and SSNs. Outreach was conducted in tandem with the team from the Homeless Veterans' Reintegration Program study,[30] which required similar data from states.

The outreach process included five stages:

1. <u>Developing relevant materials.</u> The study teams developed a common set of outreach materials for communicating with states, as well as a tracking tool to identify and record the points of contact at each state.

2. <u>Prioritizing of states.</u> We determined the order that states were contacted based on the numbers of America's Promise and Homeless Veterans' Reintegration Program participants reported in grantee quarterly progress reports, as well as the number of homeless veterans in each state's WIPS data for PY2017. We began outreach with a small set of six states in May 2019 to test our materials and approach, then we continued to add states in waves through January 2020 until we reached a total of 33 states, 26 of which included potential America's Promise participants (based on partnership coverage areas).

3. <u>Identifying appropriate points of contact in each targeted state.</u> Identifying the correct point of contact for our request posed a significant challenge in many states. Wherever possible, study team members with experience working with states on similar data collection efforts identified points of contact based on those experiences. In cases where there was no obvious contact person, our team conducted public records searches for technical leaders within state departments that handled workforce data. Identifying (or in many cases being directed to) staff working in the right department within each state was crucial to a successful request. In several cases, U.S. Department of Labor staff (including staff from the national office and one regional federal project officer) were able to provide contacts that were responsive.

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[30] The Homeless Veterans' Reintegration Program was conducted by Mathematica along a similar time frame as this study. For more information, see https://www.mathematica.org/projects/evaluating-the-homeless-veterans-reintegration-program.

4. <u>Conducting outreach.</u> Once we obtained valid contact information, we sent initial emails and scheduled phone calls with points of contact. We continued to pursue states for the study until they had either agreed to participate, declined to participate, or stopped responding to email requests.

5. <u>Legal negotiation and review of data use agreements.</u> For states open to considering our request, we began data use agreement negotiations using either a template developed by our team or supplied by the state. State solicitors and contracts staff reviewed the materials and often engaged in several rounds of feedback and revisions.

In total, nine states where America's Promise program participants reside agreed to provide the study team with data: Florida, Kansas, Michigan, Oregon, Rhode Island, Tennessee, Virginia, Washington, and West Virginia. The nine states included 12 partnerships—10 had a grantee located in-state and two served some individuals residing in the participating states but had a grantee in another state. Section IV.B of the report describes the partnerships selected for the impact study.

2. America's Promise sample

This study includes all 4,402 participants from the 12 partnerships who enrolled in America's Promise between July 2019 and June 2020 and had NDNH data available. Exhibit IV.3 of the main report compares the characteristics of America's Promise participants at impact study partnerships to participants at other partnerships. Note that this is not the analytic sample, but rather the larger study sample from which the final intervention group is selected through matching (described in Section D). Relative to participants not included in the impact study, participants in the impact study partnerships are more likely to be female but otherwise are similar.

E. Matched comparison design

To construct the two comparison groups for our analysis, we conducted a two-stage matching procedure. First, we selected a subset of Wagner-Peyser participants who were similar to America's Promise participants either because they lived in a county served by America's Promise or because they had similar demographic characteristics as America's Promise participants. Due to the large number of Wagner-Peyser participants, it was not feasible to collect personally identifiable information for all participants. We therefore first had to select a subset of Wagner-Peyser participants for whom we would obtain SSNs and consequently earnings and employment data from NDNH. This subset then served as the potential match pool for the second stage, in which we identified a study sample by matching participants by demographic characteristics and pre-program earnings. This process is outlined in Exhibit A.6.

Exhibit A.6. Overview of the quasi-experimental design
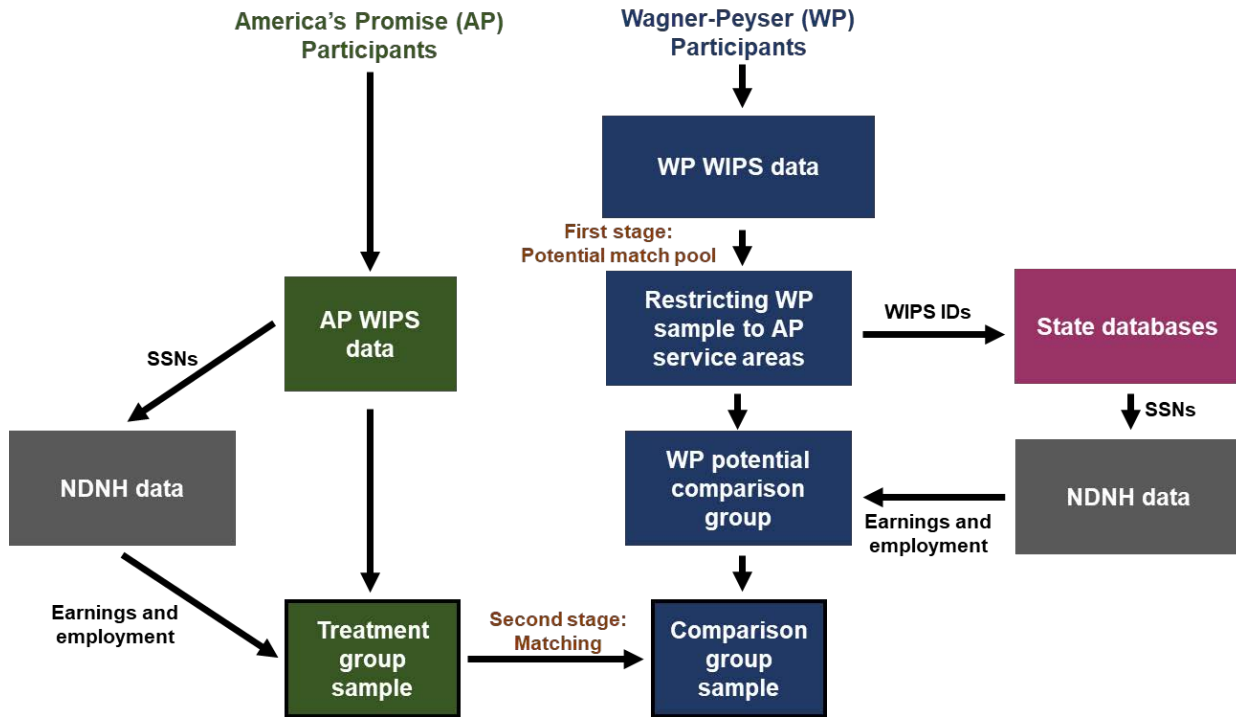
NDNH = National Directory of New Hires; SSN = Social Security number; WIPS = Workforce Integrated Performance System.

1.   First stage: Identifying the potential match pool

Because it was not feasible to collect NDNH employment and earnings data for the full group of Wagner-Peyser participants, we used the first stage of the matching design to select the potential match pool for the comparison group. This pool included PY2019 Wagner-Peyser participants who received services in a county in an impact study partnership's coverage area. Thus, for each America's Promise partnership, we identified Wagner-Peyser participants who enrolled in PY2019 and who received services in a county that is located within the partnership's coverage area. We additionally identified a set of Wagner-Peyser participants with similar characteristics as America's Promise participants with no restriction on counties, but our final analyses are limited America's Promise counties.

We submitted WIPS identifiers for members of the potential match pool to our study team's contracts at their corresponding states. The states then provided us with crosswalks of SSNs, names, and WIPS identifiers for each member of the potential match pool. These SSNs, along with the SSNs for the America's Promise sample directly available in the WIPS, were submitted to the NDNH database to obtain employment and earnings data.

The end result of the first stage was a single database containing pre-enrollment earnings and employment outcomes from the NDNH and service receipt and demographic characteristics from the WIPS, for both America's Promise participants and the subset of Wagner-Peyser participants within study states. A total of 169,070 Wagner-Peyser participants were selected for the potential match pool based on America's Promise service areas and were matched to the NDNH data. Exhibit A.7 shows the number of America's Promise and Wagner-Peyser participants in each state and industry (for America's Promise only)

at the end of the first stage, after limiting to America's Promise service areas. We combine Oregon and Washington because we are unable to distinguish between America's Promise participants in these two states using the WIPS data.

Exhibit A.7. Summary of impact sample after restricting to America's Promise service areas

State	Industry	AP participants	WP participants
FL	Health care	61	26,525
FL	Other	171	26,525
KS	Advanced manufacturing	131	3,599
MI	Health care	426	91,659
MI	Other	283	91,659
OR/WA	Health care	148	37,424
OR/WA	Other	49	37,424
RI	Advanced manufacturing	2,161	2663
TN	Other	561	3,996
VA	Health care	264	1,253
VA	Other	58	1,253
WV	Health care	63	1,951
WV	Other	26	1,951
Total	-	**4,402**	**169,070**

AP = America's Promise; WP = Wagner-Peyser.

2.   Second stage: Propensity score estimation and matching

In the second stage we identified the final comparison group of Wagner-Peyser participants for our analysis. Participants identified in the first stage were matched to America's Promise participants on demographic characteristics, pre-program earnings and employment, and labor market. This was achieved by exact matching on specific characteristics and using caliper matching (a form of distance matching) on the likelihood of participation in America's Promise, which was estimated using propensity scores.

Overview of propensity score matching

Propensity scores are estimates of the probability of joining to the intervention study group (America's Promise) as opposed to the comparison group (Wagner-Peyser), given a set of individual characteristics. A modeling approach is generally used to calculate propensity scores, with the study group indicator as the outcome and features influential to group choice as the covariates. Propensity scores are particularly useful in settings where we seek to achieve balance on many confounders but exact matching on all of them is infeasible, as the propensity score provides a summary measure of the differences between the study groups. It also allows for balancing of continuous variables between groups.

Propensity scores can be used to remove confounding either through matching or inverse probability weighting. We chose the former approach for this evaluation. This is in part due to the first stage of our design, in which we identified a subset of Wagner-Peyser participants to potentially include in the comparison group. With matching, we could select a comparison group that closely mirrors the intervention group apart from the services received. Furthermore, matching is a more direct means of

optimizing covariate balance. One potential disadvantage of matching is it may lead to sample loss, but this was less of a concern given the large size of the potential match pool relative to the America's Promise sample. In addition, propensity score matching techniques cannot account for potential unobserved confounders or other factors for which data do not exist.

As our approach was intended to create a comparison group that is similar to the intervention group, our impact estimates will be interpreted as the average treatment effect on the treated. However, if there is poor overlap of the propensity scores and some America's Promise participants are discarded, the estimand no longer represents the average treatment effect on the treated, but rather estimates may instead be interpreted as the average treatment effect on the remaining matched sample (Samuels 2017; Noah and Stuart 2021).

Matching variables and data processing

To construct a comparison group with similar demographics, employment histories, and economic contexts as the America's Promise group, we included variables from each of these domains in the matching process. Variables used in the propensity score models included age, gender, disability status, race and ethnicity, education level, eligible veteran status and ex-offender status. We also include a set of pre-enrollment labor market outcomes designed to represent both the individuals steady-state earnings and whether the individual experienced an earnings shock leading up to program enrollment. These are described in the next subsection.

We also exact matched on state of residence, program quarter of entrance, gender, and employment status at entry (defined as both self-reporting being employed and not receiving unemployment insurance in the administrative data during the quarter prior to entry or the quarter of entry itself) to help ensure that the intervention and comparison groups faced similar labor market conditions. We also matched America's Promise participants to Wagner-Peyser participants who lived within the service area of America's Promise partnerships. Matching exactly within county or on county-level variables was not feasible due to the limited availability of county-level data for America's Promise participants.

Finally, while matching on the industry of the training program was not an option (as Wagner-Peyser participants did not have data on training/employment industry), we performed matching separately for three distinct groups of America's Promise participants. The first was participants at the Rhode Island Department of Labor and Training. This was the largest partnership and represents the overwhelming majority of participants in advanced manufacturing. The second was the group of participants trained in the health care industry. This was the second largest training industry and attracted participants who were mostly female, in contrast to other industries. The third group included all other participants. For each group, we estimated propensity scores using all Wagner Peyser participants from the potential match pool and only America's Promise participants in the relevant group, and we performed the match among these participants only. This was to account for potential differences in the enrollment process and populations across the training industries in our evaluation.

To prepare the data for matching, several processing decisions were made. First, the America's Promise training industry for Rhode Island was unspecified in the WIPS data. Based on our qualitative data collection for the implementation study of America's Promise (English et al. 2022a), we determined that

the America's Promise programs operating in Rhode Island should all be classified as advanced manufacturing. In addition, one America's Promise partnership was reported as serving individuals in both Oregon and Washington states. However, the WIPS data showed all participants as residing in Washington. As this was the only partnership operating in these states, we decided to treat Oregon and Washington as a single state for the purposes of matching.

Finally, a number of decisions were made regarding missing data:

- In some cases, there were unexpectedly large drops in employment in the quarter or few quarters leading up to the end of the data. We determined that this likely represented incomplete data and removed data for states when there was a 20 percent drop or greater in data availability. One state in particular, Virginia, was missing data for a large share of participants starting in 2021 Q3. As a result, Virginia data was limited to quarters prior to 2021 Q3.

- The ex-offender status flag was missing for a substantial share of sample members. We imputed these to 0 given that the overwhelming majority of participants who did have data were not ex-offenders.

- Gender was missing for very few America's Promise participants (six in America's Promise and 2,010 in Wagner-Peyser), so those with missing gender were removed from the sample.

- Education was missing for one America's Promise participant and no Wagner-Peyser participants, so missing education was imputed to the category for high school or lower, as this was the modal value among America's Promise participants.

Differences in timing of America's Promise and Wagner-Peyser enrollment

A key concern for this study was the different enrollment timelines for America's Promise and Wagner Peyser participants. In particular, the process of finding training options and officially enrolling in an America's Promise program can take up to three months[31], at which point they are entered into the WIPS database. Meanwhile, Wagner-Peyser enrollment, and therefore inclusion in the WIPS data, is immediate for individuals who enter an American Jobs Center or receive unemployment Insurance in some states. Therefore, if an America's Promise individual and Wagner-Peyser individual experienced earning shocks at the same time, the America's Promise individual may not be enrolled in and start receiving services until well after the Wagner-Peyser participant, as outlined in Exhibit A.8.

Of particular concern is the case in which an employment and earnings shock is observed in the quarter of entry for Wagner-Peyser participants but in the quarter prior to entry for America's Promise participants. For Wagner-Peyser participants, this employment drop is unlikely to represent an incapacitation (lock-in) effect of the Wagner-Peyser services, because Wagner-Peyser services are not time intensive. This undermines the success of the matching process if we can only match on employment and earnings prior to the receipt of services, and an America's Promise participant may be matched to a Wagner-Peyser participant for whom we are about to observe a substantial change to their earnings and employment that is unrelated to their program's effect. Failure to account for this could result in overestimation of the impact of America's Promise participation on employment and earnings outcomes.

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[31] This is based on findings from the implementation study data collection (English et al 2022a).

Exhibit A.8. Timing of America's Promise and Wagner-Peyser enrollment
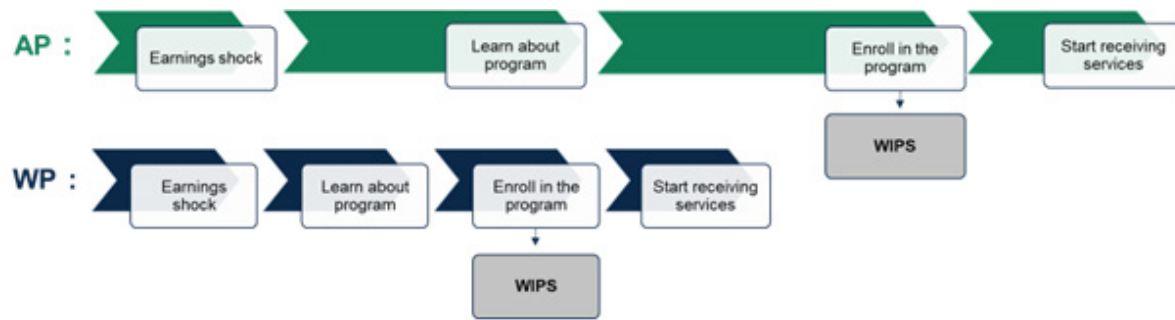
AP = America's Promise; WIPS = Workforce Integrated Performance System; WP = Wagner-Peyser.

To account for this discrepancy between America's Promise and Wagner-Peyser participants, we consider a set of pre-enrollment labor market outcomes that account for this potential difference in timing. These include the following:

- The individual's self-reported employment at program enrollment

- An indicator for whether the individual received unemployment insurance during either the quarter of or quarter prior to entry

- Employment indicators for both the second and third quarters prior to enrollment

- Quarterly earnings amount in both the second and third quarters prior to enrollment

- The number of distinct employers the individual had during the three quarters prior to enrollment

- An indicator for whether the individual had a consistent employer across those quarters

Propensity score estimation approaches

We used America's Promise participants and Wagner-Peyser participants selected in the first stage of the matching procedure to estimate the probability that each individual participated in America's Promise (as opposed to Wagner-Peyser), based on the observed demographic characteristics and pre-program employment and earnings information outlined above. These propensity scores were estimated using machine-learning models designed to select the optimal comparison group based on all available data. To account for unique enrollment patterns across the America's Promise training industries, separate propensity score models were developed for each of three industry-based groups described above, comparing America's Promise participants within that industry to all Wagner-Peyser participants. We did not estimate separate models for each partnership due to the small sample sizes within some partnerships, limiting our ability to take advantage of the full set of potential covariates and their interactions.

We considered three machine learning methods for estimating propensity scores, each of which are designed to select predictors from a large number of covariates and their interactions. We estimated propensity scores using each method, and then ran a "horse race" to determine which of the methods performed best in our sample. We selected the primary method to be the method which resulted in the best covariate match, as estimated using a prognostic score. We describe this process in more detail below.

We considered the following three methods for estimating propensity scores.

- **Bayesian additive regression trees (BART).** This method starts with the full set of potential covariates and explores potential decision tree structures that are most predictive of outcomes (Chipman et al. 2010). It does this by averaging over a series of regression trees that are created by probabilistically adding and removing terminal nodes formed by splitting the sample based on chosen covariate values with probability proportional to the additional explanatory power. BART's flexibility means that it can be used to account for potential differences in relationships between covariates and the propensity score for different partnerships. BART has also been shown to offer better predictive power compared with other commonly used methods, such as the random forest model (Chipman et al. 2010). We fit this model in `R` using the `dbarts` package, using the associated default priors and specifying 1,000 iterations for the model.

- **Toolkit for Weighting and Analysis of Nonequivalent Groups (TWANG).** TWANG uses Generalized Boosting Models to estimate propensity scores (Griffin et al. 2014). Like BART, this is a tree-based, non-parametric method which iterates over predictors and selects the most appropriate model. However, while BART is a somewhat generic method intended to generate high-quality predictions for any outcome, TWANG is specifically designed for predicting binary outcomes (such as whether an individual is in the treatment or comparison group) and is intended to maximize covariate balance across treatment and comparison groups. Because TWANG optimizes covariate balance, it has been shown to lead to causal estimates with lower bias and higher efficiency than many other, simpler methods (Griffin et al. 2014).

  To fit this model we used the `weightit` package in `R`, with the maximum number of trees set to 3,000 and a minimum of 10 observations in each terminal node. This method required tuning of some parameters that control the algorithm, including the maximum interaction depth for the trees and the shrinkage (or learning) rate. The interaction depth determines the number of splits that can be performed on each tree. The greater the number of splits, the more complex the model is and the more likely we are to model spurious interactions in the data (also known as overfitting) that are not truly influential for study group choice. The shrinkage rate controls the degree to which each tree improves the model. Selecting the optimal value for this parameter entails tradeoffs for model estimation and performance. A large shrinkage rate leads to a faster learning process but may result in a less accurate model; conversely, a small shrinkage rate results in a more precise but substantially longer learning process. We considered maximum interaction depths of 3 and 4 and shrinkage rates of 0.005 and 0.01.

- **Double-selection Least Absolute Shrinkage and Selection Operator (LASSO).** LASSO models select a parametric model by choosing covariates predicting the propensity score from a prespecified list of variables and interaction terms. The method limits the number of covariates included in a model by imposing a penalty for each additional covariate added. We used the double-selection LASSO method, which selects covariates based on the model's ability to predict both the outcome and whether an individual received America's Promise services. We focused on the confirmatory employment outcome in Q8 to maximize sample balance on expected employment rate based on covariates (Belloni et al. 2014). Double-selection LASSO was performed using the `glmnet` package in `R`.

We specified the following models for the outcome and treatment indicator:

Outcome model: $y_i = \alpha AP_i + \theta X_i + r_i + \varepsilon_i$:

Treatment model: $AP_i = \beta X_i + q_i + v_i$

where y_i is employment in the eighth quarter after enrollment, AP_i is the indicator for receiving America's Promise services (vs. Wagner-Peyser services), X_i is a vector of potential predictor variables and interactions (subject to variable selection), r_i and q_i are approximation errors, and ε_i and v_i are sampling errors, where $E[\varepsilon_i \mid AP_i, X_i, r_i] = 0$, $E[v_i \mid X_i, q_i] = 0$. We specified the following interactions in X_i: *State * Gender*, *State * Age*, *State * EducationLevel*, and *State * Race / Ethnicity*.

The binary treatment indicator, AP_i, was originally modeled using the logit link function (also known as logistic regression). However, we encountered convergence issues using this approach due to the limited sample size (for America's Promise) relative to the number of covariates. To resolve this, we first used a linear probability formulation for the treatment model in LASSO as shown above, which uses the identity (untransformed) link function. We then fit a final propensity score model with the covariates selected through LASSO using the logit transformation.

The penalty parameter, λ, which controls the shrinkage of coefficients towards 0 and therefore influences the sparsity of the final model, was tuned using 10-fold cross validation, a default procedure in the `glmnet` package. We use the λ value that is the largest value that limits error within one standard error of the minimum (Friedman et al. 2010).

Matching mechanism

Once the propensity scores were estimated, we matched individuals using partial exact matching followed by caliper matching. We first focused on a subset of variables for exact matching that we believe are most important for ensuring that the comparison group and treatment groups are comparable. The time period of our study, includes the start of the COVID-19 pandemic, which was a particularly turbulent time in the national labor market. As a result, to ensure treatment and comparison group members were experiencing similar labor markets, we matched exactly on the quarter of program entry for participants and state of training. We also exact matched on employment at entry to prevent matching an individual who recently received and employment shock, such as losing one's job, to one who did not.[32] We also exact matched on gender due to the different occupational preferences and the differential impact of the COVID-19 pandemic by gender.

Within the pool of potential comparison group members who match each treatment group member on these four characteristics, we use caliper matching to identify the final comparison group. This strategy works by selecting all Wagner-Peyser participants with a propensity score within a given distance (the caliper) to form a comparison group for each America's Promise participant. We performed caliper matching on propensity scores within America's Promise service areas and within program-quarters to help ensure that individuals in matched-comparison groups faced similar labor market conditions and time periods. We also exact matched on gender and self-reported employment status at entry to ensure that participants were in similar employment situations at entry.

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[32] Employment at program entrance is defined as self-reporting that you are employed at program entrance and not receiving unemployment insurance in either Q-1 or Q0.

The size of the caliper determines the selectivity of the matching procedure, impacting both the resulting covariate balance between study groups and the size of the matched samples. A caliper that is too large will not sufficiently balance the covariates and can result in bias, as people from the comparison group will be included in the match even if their covariates do not closely match. Conversely, a tight caliper can result in sample loss if there are no members of the comparison group within the caliper for some America's Promise participants. Balancing these two goals is generally a tradeoff. As we had a large sample of Wagner-Peyser participants available for matching (a ratio of 45 participants to 1 America's Promise participant), we were less concerned about sample loss and selected our caliper based on achieving covariate balance.

We initially defined the caliper as 90 percent of the largest distance between a treatment group member and the nearest comparison group member, as suggested by Huber et al. (2015). However, this resulted in an implausibly large caliper which did not lead to sufficiently balanced covariates between the study groups. We then considered calipers of 0.1 and 0.2 times the standard deviation of the logit of the propensity scores, as these values have been shown in the literature to minimize the bias of the estimated treatment effect (Rosenbaum and Rubin 1985; Austin 2011; Wang et al. 2013). The logit scale is used as opposed to the propensity scores themselves, because the logits are normally distributed, whereas there can be a compression of propensity scores near the extremes of 0 and 1 (Rosenbaum and Rubin 1985).

Caliper matching was performed with replacement, meaning that Wagner Peyser participants could be matched to more than one America's Promise participant. In the analysis of the final matched sample, each comparison group individual was given a weight proportional to the inverse of the total number of Wagner-Peyser participants who matched to a given America's Promise participant, then summed across each participant they were matched to (Imbens and Wooldridge 2009). This was also the strategy selected by Heinrich et al. (2013) when estimating the causal impacts of Workforce Investment Act training and other workforce programs.

Selecting the primary estimation approach and caliper

To select the primary method for estimating the propensity score, we first estimated propensity scores using each of the methods described above (BART, TWANG, and LASSO) and selected comparison groups using caliper matching, with both calipers (0.1 and 0.2 times the standard deviation of the logit of the propensity scores) considered. The specific combinations of estimation approach and caliper used in each strategy are outlined in Exhibit A.9 below.

We evaluated each approach on its ability to achieve balance on observed characteristics in the final matched sample. Specifically, we assessed the following three properties for the matched samples generated by each of the methods in Exhibit A.9:

1. **In-sample covariate balance**. To assess the balance of characteristics in each of the matched samples, we calculated standardized mean differences for each characteristic included in the propensity score model, as well as two-tailed *p*-values resulting from *t*-tests for each variable.[33]

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[33] We acknowledge that the *t*-test may not be the best measure of similarity due to statistical significance being directly tied to sample size (Imbens and Ruben 2015) but include it for its familiarity.

2. **Propensity score distribution**. For each strategy, we estimated the Bhattacharyya coefficient, which provides an overall summary of the overlap of the distribution of propensity scores in the treatment and comparison groups (Bhattacharyya 1943). The coefficient ranges in value from zero to one, where a value of one implies the distributions are identical.

3. **Prognostic score.** The prognostic score is an estimate of what the risk/average outcome would be in each study group under the control condition (that is, without the intervention). It provides a summary measure of covariate balance. It is calculated by first estimating a regression model to predict an outcome (in our case, employment in the eighth quarter after program enrollment) using the comparison group. This model is then used to predict outcomes for both the matched treatment and comparison groups, and the predicted values are compared for the two study groups using the standardized mean difference (Zhang et al. 2019). We estimated the prognostic score using a standard logistic regression with the same set of covariates that we used to estimate the propensity score.

The primary method for estimating the propensity score, as well as the size of the caliper, was chosen as that which produced the lowest standardized mean difference in prognostic scores. This method has been shown to outperform selection based on comparisons of means across predictors of the propensity score in simulations (Stuart et al. 2013).

A summary of results for the candidate methods are reported in Exhibit A.9.

Exhibit A.9. Matching properties for four propensity score estimation approaches and calipers

Estimation method	Bhattacharyya coefficient	Caliper [a]	Prognostic score SMD[b]	% AP participants with no match
BART	0.999	0.1	0.009	15%
BART	0.997	0.2	0.011	10%
Double-selection LASSO	0.999	0.1	0.004	16%
Double-selection LASSO	0.998	0.2	0.008	10%
TWANG	0.998	0.1	0.010	18%
TWANG	0.992	0.2	0.009	13%

Source: NDNH data matched to WIPS data. Data cover 2018 Q4–2021 Q2 in Virginia and 2018 Q4–2022 Q2 in all other states.

Notes: Prognostic scores estimated using employment in the 8th quarter following program enrollment.

[a] Caliper units are standard deviation of propensity scores on the logit scale.

[b] Standardized mean difference.

AP = America's Promise; BART = Bayesian additive regression trees; LASSO = Least Absolute Shrinkage and Selection Operator; NDNH = National Directory of New Hires; Q = quarter; SMD = standardized mean difference; TWANG = Toolkit for Weighting and Analysis of Nonequivalent Groups; WIPS = Workforce Integrated Performance System.

Based on the results of our sample comparisons, we selected the double-selection LASSO with a 0.1 standard deviation caliper as our primary estimation method. We present sensitivity analyses using each of these methods in Section G.3.

3.   **Matched sample characteristics**

Using the double-selection LASSO method with size 0.1 caliper, which was selected as the primary approach, our final matched sample had 3,746 America's Promise participants and 103,679 Wagner-

Peyser participants, with a median of 12 matches obtained for each America's Promise participant. Some America's Promise participants did not receive matches and are excluded from the final analytic sample, including 24 percent in Rhode Island, 12 percent in health care, and 1 percent in other.

Individual characteristics of the final matched analytic sample are reported in Exhibit A.10. In addition to assessing mean differences, we also compared the distributions of pre-enrollment earnings and found the distributions of quarterly earnings two and three quarters prior to enrollment to be very similar for America's Promise and Wagner-Peyser participants. Consistent with mean differences, the earnings of America's Promise participants were lower than Wagner-Peyser participants across the distribution.

Exhibit A.10. Individual characteristics of the matched analytic sample

Characteristic (percentage if not otherwise specified)	Wagner-Peyser (WP full)	Wagner-Peyser (WP matched)	America's Promise (AP)	Difference (AP -WP matched)	Standardized mean difference	*p*-value
Sample size	169,070	103,679	3,746	-	-	-
Program year quarter of entry	-	-	-	-	-	-
2019 Q1	0.30	0.34	0.34	0.00	0.00	1.000
2019 Q2	0.34	0.30	0.30	0.00	0.00	1.000
2019 Q3	0.29	0.28	0.28	0.00	0.00	1.000
2019 Q4	0.07	0.08	0.08	0.00	0.00	1.000
Age	-	-	-	-	-	-
Less than 20 years	0.02	0.04	0.08	0.03	0.12	<0.001
20–24 years	0.09	0.18	0.19	0.01	0.03	0.193
25–29 years	0.13	0.18	0.18	0.01	0.02	0.298
30–34 years	0.12	0.12	0.14	0.02	0.05	0.006
35–39 years	0.12	0.10	0.09	-0.01	-0.04	0.097
40–44 years	0.10	0.10	0.08	-0.02	-0.08	<0.001
45–49 years	0.11	0.10	0.08	-0.02	-0.07	<0.001
50 or more years	0.32	0.18	0.16	-0.02	-0.05	0.011
Female	0.45	0.61	0.61	0.00	0.00	1.000
Race and ethnicity	-	-	-	-	-	-
Hispanic	0.11	0.12	0.13	0.00	0.01	0.688
Black, non-Hispanic	0.26	0.31	0.33	0.02	0.04	0.053
White, non-Hispanic	0.54	0.45	0.42	-0.03	-0.05	0.009
Other, non-Hispanic	0.09	0.12	0.12	0.01	0.02	0.371
Employed at enrollment (self-reported)	0.17	0.41	0.40	-0.01	-0.02	0.325
Education	-	-	-	-	-	-
High school diploma/GED certificate or less	0.56	0.55	0.56	0.01	0.02	0.400
Some postsecondary education	0.26	0.29	0.28	-0.01	-0.02	0.348
Bachelor's degree or more	0.18	0.16	0.16	0.00	0.00	0.997

Characteristic (percentage if not otherwise specified)	Wagner-Peyser (WP full)	Wagner-Peyser (WP matched)	America's Promise (AP)	Difference (AP -WP matched)	Standardized mean difference	*p*-value
Ex-offender	0.04	0.03	0.03	0.01	0.04	0.001
Disability	0.04	0.04	0.03	-0.01	-0.05	0.010
Earnings (mean)	-	-	-	-	-	-
Pre-enrollment Q3	$8,786	$4,932	$4,878	-$53	-0.01	0.660
Pre-enrollment Q2	$8,554	$4,890	$4,862	-$28	0.00	0.835
Pre-enrollment Q1	$7,879	$5,000	$4,324	-$676	-0.12	<0.001
Employment	-	-	-	-	-	-
Pre-enrollment Q3	0.87	0.74	0.74	0.01	0.02	0.420
Pre-enrollment Q2	0.87	0.74	0.75	0.01	0.02	0.337
Pre-enrollment Q1	0.82	0.75	0.73	-0.02	-0.05	0.005
Q0 (at entry)	0.79	0.74	0.70	-0.04	-0.08	<0.001
Unemployment insurance receipt	-	-	-	-	-	-
Pre-enrollment Q3	0.07	0.06	0.04	-0.02	-0.08	0.015
Pre-enrollment Q2	0.08	0.05	0.06	0.01	0.05	0.033
Pre-enrollment Q1	0.11	0.07	0.11	0.04	0.13	<0.001
Q0 (at entry)	0.07					
Consistent employment with one employer in pre-enrollment quarters Q3-Q1	0.62	0.43	0.45	0.01	0.03	0.169
Number of distinct employers in pre-enrollment quarters Q3-Q1	-	-	-	-	-	-
0	0.07	0.15	0.15	0.00	0.00	0.958
1	0.61	0.43	0.43	0.00	0.00	0.910
2	0.21	0.24	0.24	0.00	0.00	0.988
3 or more	0.11	0.18	0.18	0.00	0.00	0.912

Source: NDNH data matched to WIPS data. Data cover 2018 Q4–2021 Q2 in Virginia and 2018 Q4–2022 Q2 in all other states.

Notes: Employment is defined as having any earnings in a given quarter.

NDNH = National Directory of New Hires; Q = quarter; WIPS = Workforce Integrated Performance System.

We further assessed sample balance within subgroup to understand whether subgroup differences were likely to be driven by differences in within group balance and found strong balance within subgroups. For both gender and race, all effect size differences met the WWC standard of all effect size differences within .25 for each subgroup. Within the education subgroups, we found that the comparison group was more likely to be under 20 than the treatment group, among those who had a BA. For individuals training in IT occupations, we found the comparison groups to be more likely to be under 20 and not have a high school degree, but less likely to have a BA. The subgroup which has the least balance between the comparison and treatment groups was incumbent workers, which further suggests that these participants may have been selected differently than other America's Promise participants.

F.   Outcome measures

For the impact study, we focused on comparing employment and earnings outcomes of America's Promise program participants to the matched Wagner-Peyser group created using the procedure described in the previous sections. Analyzing the impact of participation in America's Promise on these outcomes consisted of two major components:

1. A cross-site examination of the impacts of America's Promise using data pooled across the 12 partnerships

2. An examination of partnership-specific impacts for the 10 partnerships whose partnership was located in an impact study state

Partnership-specific impacts were estimated for only a subset of the outcomes, focused on our confirmatory ones.

We further distinguish the outcomes in our analysis as being confirmatory or exploratory. Confirmatory outcomes were of primary interest and included employment in Q4 and Q8 post-enrollment, and earnings in the second year after enrollment. Exploratory outcomes were intended to provide a more complete assessment of the financial well-being and stability of participants following program participation.

A complete listing of outcomes for the cross-site and partnership-specific analyses are shown in Exhibit A.11.

Exhibit A.11. Impact study outcomes

Outcome	Description	Cross-partnership analysis	Partnership-specific analysis
Employment in the fourth quarter following program enrollment	An indicator equal to 1 if an individual had any earnings in the fourth quarter following enrollment in quarter 0	C[a]	E[b]
Employment in the eighth quarter following program enrollment	An indicator equal to 1 if an individual had any earnings in the eighth quarter following enrollment in quarter 0	C	E
Earnings in the second year (quarters five to eight) after program enrollment	Total earnings across all employers in quarters 5–8 following program enrollment in quarter 0	C	C
Employment: quarterly following program enrollment	An indicator equal to 1 if an individual had any earnings in each quarter following enrollment in quarter 0	E	-
Earnings: quarterly following program enrollment	Total earnings across all employers in each quarter following program enrollment in quarter 0	E	-
Total earnings in the two years following program enrollment	Total earnings across all employers in quarters 1–8 following program enrollment in quarter 0	E	E

Outcome	Description	Cross-partnership analysis	Partnership-specific analysis
Number of employers in the two years following program enrollment	Number of unique employers from which an individuals received any earnings in quarters 1–8 following program enrollment in quarter 0	E	-
Received unemployment insurance in the two years following program enrollment	An indicator equal to 1 if an individual received unemployment insurance in quarters 2–8 following program enrollment in quarter 0.[c]	E	-
Employment in the eighth quarter following enrollment	-	-	-
Working a single job paying at least 200% of the federal poverty line	An indicator equal to 1 if an individual earned an amount greater than equal to 200% of the federal poverty line, defined for a two-person household, from a single employer	E	-
Earning more than three quarters prior to enrollment	An indicator equal to 1 if an individual's total earnings in the eighth quarter following enrollment was larger than their total earnings in the third quarter prior to enrollment	E	-
Worked more than one job	An indicator equal to 1 if an individual received income from two or more employers in the eighth quarter following enrollment.	E	-

[a] Confirmatory outcome.

[b] Exploratory outcome.

[c] Unemployment in the first quarter following program enrollment was considered likely to be from a pre-enrollment shock and not considered in this outcome.

G. Cross-site analyses

1. Regression modeling and estimation

To estimate the cross-partnership impact of participation in America's Promise on the outcomes described in Exhibit ES.1, we pooled all America's Promise participants in the matched sample who received services from the 12 partnerships. We estimated an ordinary least squares regression controlling for individuals' demographic characteristics and employment and earnings history. The following regression model was used: $Y_{ipj} = \alpha + \beta T_i + \gamma X_i + \delta_j + \varepsilon_{ijp}$

Y_{ipj} is the outcome Y for individual i at partnership p living in state j. T_i is an indicator for whether the individual received America's Promise services, X_{ip} is a set of individual covariates[34], and δ_j is a state fixed effect (that is, an indicator for living in a specific state). ε_{ijp} is an individual-specific error term.

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[34] We included all the variables used in the second stage matching procedure as covariates in the regression analysis.

Each America's Promise participant in the analytic sample received a weight of one and each comparison group member received a weight proportional to the number of times they were selected as a match, with the comparison group weights normalized to sum to the number of observations in the treatment group (Imbens 2015). We use heteroskedasticity-robust standard errors but do not correct for either the variance introduced from the matching procedure (Abadie and Imbens 2008) or for the variance that is introduced from estimation of the propensity score, which may have led to standard errors that were either too big or too small (Abadie and Imbens 2016).

2.   Interpreting the cross-partnership impacts

The impact estimates from the cross-site analyses can each be interpreted as the impact of participation in a program at one of 12 America's Promise partnerships compared with receipt of Wagner-Peyser services. For a description of the services available through the Wagner-Peyser program, see Chapter IV.e of the report. Due to the matched comparison design in which some America's Promise participants did not receive matches and were subsequently dropped from the analysis, the estimates represent the average treatment effect on the matched units, as opposed to the averaged treatment effect on the treated.

3.   Subgroup impacts

We analyzed how the impact of participation in one of the 12 America's Promise partnerships varied by important subgroups of participants. Specifically, we estimated the same model as the full sample but include an interaction between treatment and an indicator for belonging to each subgroup, *S*.

$$Y_{ip} = \alpha + \beta T_i + \varphi_s T_i * S_i + \gamma X_{ip} + \delta_p + \varepsilon_{ip}$$

We estimated impacts separately by sector of training program; gender; race and ethnicity; designation as unemployed, underemployed, or an incumbent worker at program enrollment; and timing of enrollment and participation in training relative to the onset of the COVID-19 pandemic (March 2020) in the United States.

4.   Sensitivity analyses

For each confirmatory analysis, we conducted sensitivity analyses to determine how dependent our results were on the caliper matching strategy used to select the comparison group.

Alternative calipers and propensity score estimation methods

As described in Section E, we considered three methods for estimating propensity scores and two calipers for the propensity score matching. Our primary results use the double-selection LASSO to estimate propensity scores with a caliper of 0.1 standard deviations of the logit transformation of the propensity score distribution. We also present the results of the confirmatory analyses using the alternative methods.

Exhibit A.12. Cross-partnership impacts on employment and earnings using alternative propensity score estimation methods and calipers

Estimation method	Caliper[a]	Q4 employment Coefficient	Q4 employment Standard error	Q8 employment Coefficient	Q8 employment Standard error	Earn year 2 Coefficient	Earn year 2 Standard error
BART	0.1	0.048***	0.014	0.038***	0.013	$2,107***	$700
BART	0.2	0.047***	0.015	0.034**	0.013	$2,063***	$768
Double selection LASSO	0.1	0.057***	0.014	0.044***	0.012	$2,697***	$684
Double selection LASSO	0.2	0.059***	0.015	0.039***	0.012	$2,376***	$726
TWANG	0.1	0.056***	0.017	0.042***	0.014	$2,954***	$670
TWANG	0.2	0.059***	0.019	0.044***	0.015	$2,631***	$789

Source: NDNH data matched to WIPS data. Data cover 2018 Q4–2021 Q2 in Virginia and 2018 Q4–2022 Q2 in all other states.

Notes: Employment is defined as having any earnings in a given quarter.

[a] Caliper units are standard deviation of propensity scores on the logit scale.

BART = Bayesian additive regression trees; LASSO = Least Absolute Shrinkage and Selection Operator; NDNH = National Directory of New Hires; TWANG = Toolkit for Weighting and Analysis of Nonequivalent Groups; WIPS = Workforce Integrated Performance System.

  * $p < .1$
 ** $p < .05$
*** $p < .01$.

Alternative to caliper matching

In addition to caliper matching, we also considered nearest-neighbor matching with replacement.[35]

Nearest-neighbor matching with replacement matches each intervention group member to the member of the comparison group with the closest propensity score. Matching is said to be done with replacement because the same comparison group member can be matched to several treatment group members.[36] For each America's Promise participant, we identified the Wagner-Peyser participants with the closest propensity score.

Exhibit A.13. Cross-partnership impacts on employment and earnings using nearest neighbor matching – confirmatory outcomes

Outcome	Impact estimate	Standard error	*p*-value
Employment in Q4 following enrollment	0.065	0.022	0.003
Employment in Q8 following enrollment	0.038	0.016	0.021

[35] In addition, we considered an alternative method called Bayesian causal forests; however, we did not include this as a sensitivity analysis due to limitations in our computing power.

[36] Crump et al. (2009) recommends removing members of the sample with an estimated propensity score outside the range of [0.1, 0.9.]. For each America's Promise participant, we identified the Wagner-Peyser participants with the closest propensity score.

Outcome	Impact estimate	Standard error	*p*-value
Earnings in Q5–Q8 following enrollment	$1,685	$939	0.073

Source: NDNH data matched to WIPS data. Data cover 2018 Q4–2021 Q2 in Virginia and 2018 Q4–2022 Q2 in all other states.

Notes: Employment is defined as having any earnings in a given quarter.

NDNH = National Directory of New Hires; Q = quarter; WIPS = Workforce Integrated Performance System.

Removing participants who went on unemployment insurance in Q1

As described in Section E.2, the differential timing of enrollment relative to earnings shocks for America's Promise and Wagener-Peyser participants posed a challenge for the matched comparison design. After including employment status and unemployment insurance receipt at entry to try to account for this, a drop in earnings and employment was still observed for Wagner-Peyser participants in the first quarter after enrollment in the matched sample, unlike the America's Promise participants. This may partially represent Wagner-Peyser participants who lost their jobs in the quarter of enrollment but did not receive unemployment insurance payments until the first quarter after enrollment. These employment shocks, if unaccounted for, may lead to overestimation of the impacts of America's Promise participation. We noticed that this discrepancy was primarily observed among the subset of participants who were employed at entry, while those unemployed at entry showed greater balance between the study groups. We therefore ran a sensitivity analysis in which we limited the analytic sample by excluding Wagner-Peyser participants who did not receive unemployment insurance in the quarter prior to enrollment or the quarter of enrollment but began receiving unemployment insurance in the first quarter after enrollment.

Exhibit A.14. Cross-partnership impacts on employment and earnings excluding participants who go on unemployment insurance in the first quarter following enrollment – confirmatory outcomes

Outcome	Impact estimate	Standard error	*p*-value
Employment in Q4 following enrollment	0.051	0.014	<0.001
Employment in Q8 following enrollment	0.045	0.013	0.001
Earnings in Q5–Q8 following enrollment	$2,408	$723	0.001

Source: NDNH data matched to WIPS data. Data cover 2018 Q4–2021 Q2 in Virginia and 2018 Q4–2022 Q2 in all other states.

Notes: Employment is defined as having any earnings in a given quarter.

NDNH = National Directory of New Hires; Q = quarter; WIPS = Workforce Integrated Performance System.

Controlling for match-specific fixed effects

We ran a sensitivity analysis controlling for match fixed effects. Because we included controls for characteristics in both the propensity score and regression estimation, this approach is classified as a doubly robust strategy. Such approaches have been found to perform well under a range of circumstances, by both Busso et al. (2014) and Huber et al. (2013)—even when there is less overlap of the propensity score distribution. Unlike in the main specification, where each Wagner-Peyser participant appears only once with weight proportional to the total number of times they were matched, in this analysis each Wagner-Peyser participant appears once for each America's Promise participant they were matched to. Because of this, we cluster our standard errors at the individual level. We therefore estimate the follow regression equation, where η_m is a match fixed effect.

$$Y_{ipjm} = \alpha + \beta T_i + \gamma X_i + \delta_j + \eta_m + \varepsilon_{ipjm}$$

Exhibit A.15. Cross-partnership impacts on employment and earnings including match fixed effects – confirmatory outcomes

Outcome	Impact estimate	Standard error	*p*-value
Employment in Q4 following enrollment	0.056	0.010	<0.001
Employment in Q8 following enrollment	0.044	0.009	<0.001
Earnings in Q5-Q8 following enrollment	$2,638	$482	<0.001

Source: NDNH data matched to WIPS data. Data cover 2018 Q4–2021 Q2 in Virginia and 2018 Q4–2022 Q2 in all other states.
Notes: Employment is defined as having any earnings in a given quarter.
NDNH = National Directory of New Hires; Q = quarter; WIPS = Workforce Integrated Performance System.

Removing incumbent workers

Incumbent workers in America's Promise are a unique group of participants who have been selected by their employers to receive training that will enable growth within their company. Given that these workers have already been identified as promising and worthy of growth, these workers are likely to be the least comparable to Wagner-Peyser participants. This is illustrated in Exhibit V.6, which shows that impact estimates on earnings for incumbent workers are more than four times as large as the average impact estimates. As a result, we ran a sensitivity analysis of the impact estimates removing incumbent workers.

Exhibit A.16. Cross-partnership impacts on employment and earnings removing incumbent workers – confirmatory outcomes

Outcome	Impact estimate	Standard error	*p*-value
Employment in Q4 following enrollment	0.058	0.015	<0.001
Employment in Q8 following enrollment	0.041	0.013	0.002
Earnings in Q5-Q8 following enrollment	$2,060	$722	0.004

Source: NDNH data matched to WIPS data. Data cover 2018 Q4–2021 Q2 in Virginia and 2018 Q4–2022 Q2 in all other states.
Notes: Employment is defined as having any earnings in a given quarter.
NDNH = National Directory of New Hires; Q = quarter; WIPS = Workforce Integrated Performance System.

Sensitivity to unobserved factors

One concern with this analysis was that there may be systematic differences between individuals in the treatment and comparison groups that were not observed by the study team but could impact earnings and employment. For example, if more motivated individuals sign up for an America's Promise program than for Wagner-Peyser services, an increase in earnings could reflect the impact of higher motivation among the treatment group rather than the impact of the program itself. Although it is not possible to know how much of the impact estimates were driven by unobserved differences between the treatment and comparison groups, it is important to acknowledge the potential influence of these differences on the impact estimates.

To assess the potential role of unobservable characteristics in our analysis, we estimate E-values for our confirmatory outcomes. Although these values cannot tell us the true role of unobservable characteristics

they can illustrate the potential role that a confounder could play, were it to exist. The E-value describes the "minimum strength of associate, on the risk ratio scare, that an unmeasured confounder would need to have with both the treatment and outcomes to fully explain aware a specific treatment-outcomes association" (VanderWeele and Ding 2017). We present the E-values in Exhibit A.17.

Exhibit A.17. Cross-partnership impacts on employment and earnings – E values

Outcome	E-value
Employment in Q4 following enrollment	1.48
Employment in Q8 following enrollment	1.41
Earnings in Q5-Q8 following enrollment	1.41

Source: NDNH data matched to WIPS data. Data cover 2018 Q4–2021 Q2 in Virginia and 2018 Q4–2022 Q2 in all other states.

Notes: Employment is defined as having any earnings in a given quarter.

NDNH = National Directory of New Hires; Q = quarter; WIPS = Workforce Integrated Performance System.

H.   Partnership-specific analyses

1.   Bayesian impact estimation

Although we had data on several thousand America's Promise participants, most individual partnerships contributed relatively few individuals to the analysis. Such small samples can lead to very noisy estimates of partnership-specific effects and can lead to incorrect conclusions about the effectiveness of specific programs.

We therefore used a Bayesian approach to estimate partnership-specific effects. This method brings together information on the partnership-specific estimate of the program's impact and the estimated effects of the programs of other partnerships, which stabilize the noisy estimates we obtain from the partnership-specific model alone.

To conduct the partnership-specific analyses we use a two-stage hybrid frequentist-Bayesian estimation procedure (Lipman et al. 2022). In the first step, we estimate impacts for each partnership fitting the following ordinary least squares regression model.

$$y_{ipj} = \alpha + \beta T_i I_p + \gamma X_i I_p + \xi_p + \varepsilon_{ipj}$$

y_{ipj} is the outcome for individual i in the matched sample for partnership p living in state j; ξ_p are a set of partnership sample fixed effects (being more granular than states, these replace the state fixed effects from the main model); X_i are individual characteristics, interacted with I_p, a set of partnership sample indicators; and T_i is an indicator for participating in America's Promise. This model allows for differential relationships between covariates and outcomes for each partnership sample, while estimating separate impacts for each partnership as well. Due to small sample sizes, however, the impact estimates, β, can be quite noisy.

In the second stage, we use a Bayesian hierarchical model to further refine these estimates.

$$\beta_p = \theta + \zeta_p + \varepsilon_p$$

This model treats each partnership's impact estimate, β_p, as being composed of some true overall effect of America's Promise, θ, a partnership-specific true differential impact ζ_p, and sampling error ε_p. Importantly, the partnership-specific differential impacts are modeled as random effects, with a constant variance, σ_ζ which is learned from the data, while the sampling error is governed by the standard error of each estimate. The model teases apart the signal/true differences in impacts, ζ_p, from the noise, ε_p, based on the observed variability in the impact estimates, the variability we would expect due to estimates sampling variability and prior evidence on the heterogeneity of true impacts for studies of a single intervention.

This leads to the Bayesian concept of partial pooling (also sometimes called shrinkage), whereby individual estimates are shifted closer to the overall impact θ (equivalently, they are given smaller estimated ζ) when the estimate is noisier (have a higher standard error), while all estimates are shifted closer to the overall impact when the model estimates that the variance of true differential impacts, σ_ζ is small.

Being a Bayesian model, we need to carefully pick the priors used to estimate each of the parameters in the model. We rely on a Bayesian meta-analysis of the Pathways to Work Evidence Clearinghouse (Shiferaw and Thal 2022) to inform the priors for this model. Specifically, our prior on θ is a normal distribution with a mean of 0 (that is, we are agnostic a priori about whether or not America's Promise will have overall favorable results) and a standard deviation of 0.019[37] effect size units (given the standard deviation of Q8 earnings of $8,105 and Q8 employment of 45%, 0.019 effect size units translates to roughly $154 or 0.9 percent). For θ_ζ we use a prior that the standard deviation is 0.04[38] effect size units.

2. Interpreting the partnership-specific impacts

Interpretation of Bayesian statistical estimates is different than interpretation of those for frequentist or classical approaches. Traditionally, statistical estimates provide an estimate of a program's impact as a specific numerical estimate or coefficient, as well as information about a hypothesis test using a specified statistical threshold (a *p*-value). The form of these estimates is familiar, though often misinterpreted. For example, a finding that is statistically significant, with a *p*-value less than 0.05, is often interpreted to mean that there is a very low probability that the intervention does not work. Similarly, when a finding is not statistically significant, some might interpret this to mean that there is a high likelihood that the intervention is a failure. Widespread misinterpretation was one of the primary reasons that the American Statistical Association produced the "ASA Statement on *p*-values: Context, Process, and Purpose" (Wasserstein and Lazar 2016).

In contrast, a Bayesian approach is designed to answer the questions about the probability an intervention was effective, given an observed impact estimate. Bayesian methods do this by emphasizing

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[37] Shiferaw and Thal estimate the standard deviation of true impacts across studies as 0.026. In Shiferaw and Thal, this represents the combined standard deviation of both interventions and different studies of those interventions. In our model, θ is akin to an intervention-specific effect, so we assume the estimate of 0.026 evenly between variance attributable to interventions and studies.

[38] Our ζ terms are akin to the combination of what Shiferaw and Thal term study-specific effects and finding effects; therefore, we combine the estimated finding standard deviation of 0.036 with the other half of the 0.026 estimated combined intervention and study effects.

estimation over testing and are specifically geared to address questions most of interest, such as the probability an intervention was effective, given an observed impact. A Bayesian estimate enables us to report the probability that the program has an impact, as well as the likely size of that impact. In addition, Bayesian approaches enable us to incorporate prior evidence to help improve the estimation of the intervention's effect.

3.   Partnership-specific sample balance

Like the pooled impact estimates, the partnership-specific impact estimates rely on the assumption that in the absence of the America's Promise program, outcomes would have been similar between the treatment and matched comparison group. Although we cannot test this assumption directly, we can compare the observable characteristics of the treatment and comparison groups to assess their similarities. In Chapter III of the main report, we established that the two groups were very similar in the pooled group of partnerships. However, it is possible that larger differences occur within partnerships. We assessed this by comparing the demographic characteristics and pre-enrollment labor market outcomes between the treatment and matched comparison groups within each partnership. Like with the pooled samples, we compared the difference in standardized mean differences between the treatment and comparison groups. We used a benchmark of 0.25 to represent meaningful differences between groups (What Works Clearinghouse 2022).

Within partnerships, the differences between the treatment and matched comparison groups were more pronounced than within the pooled samples and varied among partnerships. We analyzed 25 covariates across the nine partnerships, leading to 225 unique combinations. Exhibit A.18 presents the difference in effect sizes for each of the partnerships and covariates. Looking at the differences in effect sizes between treatment and comparison groups for each unique combination, 82 percent fall within our target range of within 0.25. Three covariates—the indicator for having a high school diploma or less, earnings in the third quarter prior to enrollment, and employment in the third quarter prior to enrollment—have differences in effect sizes that exceed the threshold of 0.25 for four or more partnerships. Some partnerships have treatment and comparison groups that are particularly different. Four partnerships have at least six covariates for which the effect size differences between treatment and comparison group are greater than 0.25. In contrast, another four partnerships each have two or fewer, suggesting that for these partnerships, the comparison group may be a more accurate representation of the true counterfactual outcomes for America's Promise participants. We did not find that impact estimates are systematically larger or smaller for the partnerships with worse sample balance.

Exhibit A.18. Standardized mean differences for the treatment and matched comparison group by partnership
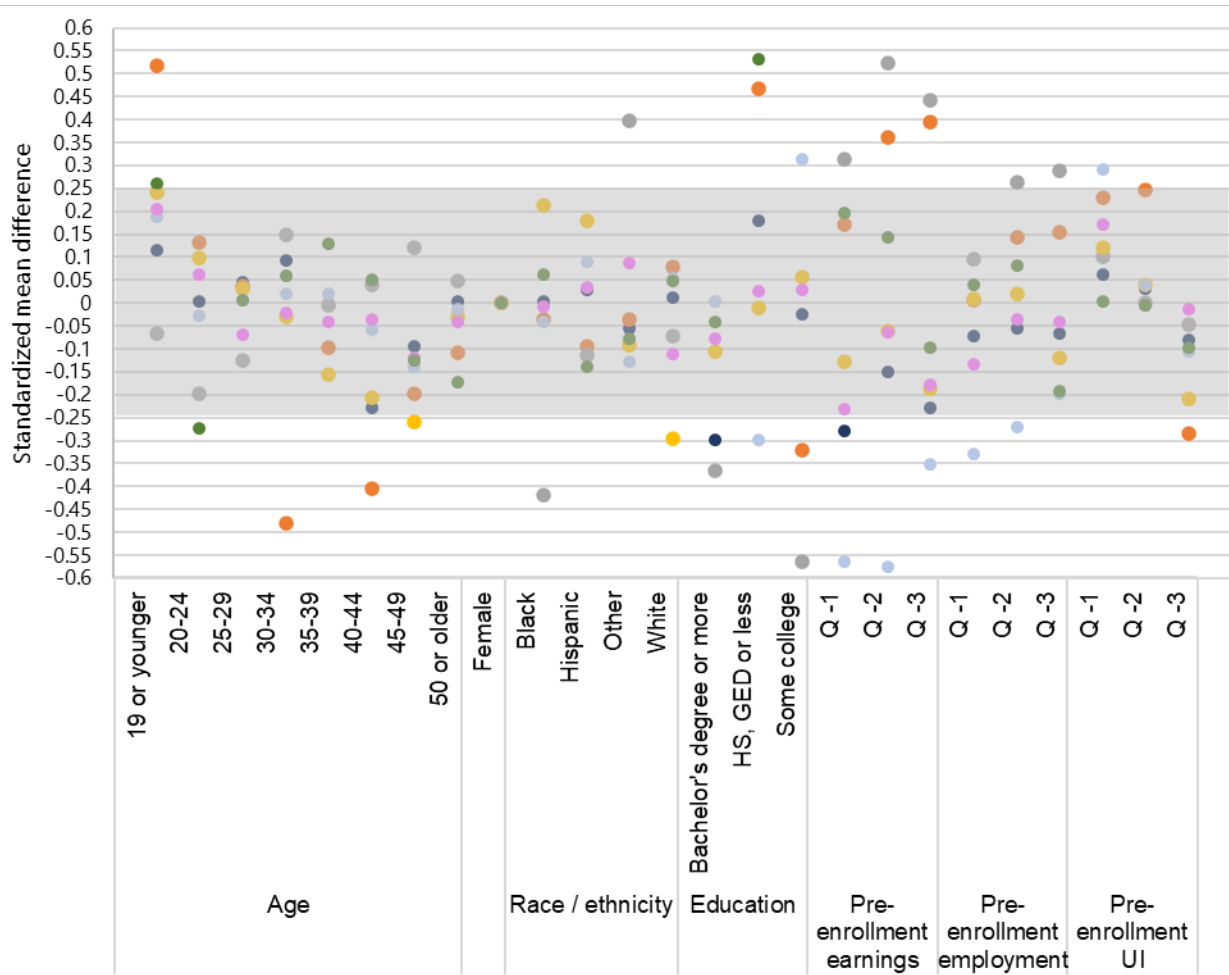
UI = unemployment insurance.

Source: NDNH data matched to WIPS data. Data cover 2018Q4–2021Q2 in Virginia and 2018Q4–2022Q2 in all other states.

Note: Individual partnerships are represented by different colors. Graph excludes four points which are outside the bounds of the chart.

I.   Supplemental exhibits

Exhibit A.19 presents the partnership-specific impact estimates of participation on earnings in the two years following program enrollment. Exhibit A.20 presents the probability that employment effects for each partnerships exceed a set of threshold.

Exhibit A.19. Partnership-specific estimates of the impact of America's Promise on earnings in the two years following program enrollment

Partnership	95 probability range lower bound	75 probability range lower bound	Mean estimated impact	75 probability range upper bound	95 probability range upper bound
Partnership 1	-$4,170	-$2,977	-$1,283	$411	$1,604
Partnership 2	-$3,312	-$1,155	$1,907	$4,969	$7,126
Partnership 3	-$3,334	-$892	$2,576	$6,044	$8,486
Partnership 4	$3,048	$5,064	$7,927	$10,790	$12,806
Partnership 5	-$835	$848	$3,238	$5,627	$7,310
Partnership 6	-$2,458	-$1,318	$302	$1,921	$3,062
Partnership 7	$10,699	$12,096	$14,079	$16,062	$17,459
Partnership 8	$2,538	$4,944	$8,360	$11,776	$14,182
Partnership 9	$4,194	$6,771	$10,430	$14,088	$16,665

Source: NDNH data matched to WIPS data. Data cover 2018 Q4–2022 Q2.
NDNH = National Directory of New Hires; Q = quarter; WIPS = Workforce Integrated Performance System.

Exhibit A.20. Probability that partnership-specific impact of America's Promise on employment exceeds increase thresholds

Partnership	Fourth quarter following enrollment			Eighth quarter following enrollment			Earnings in year 2		
	Q4 Any increase	Q4 3 pp	Q4 5pp	Q8 Any increase	Q8 3 pp	Q8 5pp	Earn year 2 Any increase	Earn year 2 $2,000	Earn year 2 $4,000
Partnership 1	96%	71%	40%	90%	53%	23%	55%	2%	0%
Partnership 2	2%	0%	0%	17%	2%	1%	35%	6%	0%
Partnership 3	77%	47%	27%	83%	54%	31%	88%	53%	14%
Partnership 4	99%	92%	73%	100%	100%	100%	100%	100%	91%
Partnership 5	99%	88%	61%	98%	73%	36%	86%	28%	1%
Partnership 6	54%	9%	1%	39%	4%	0%	76%	4%	0%
Partnership 7	100%	99%	93%	100%	99%	93%	100%	100%	100%
Partnership 8	53%	20%	8%	78%	42%	21%	99%	90%	53%
Partnership 9	79%	43%	21%	86%	52%	26%	100%	99%	89%

Source: NDNH data matched to WIPS data. Data cover 2018 Q4–2022 Q2.
NDNH = National Directory of New Hires; Q = quarter; WIPS = Workforce Integrated Performance System.

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