

Achieving Apprenticeship Program and Apprentice Registration Targets

Grantee Outcomes from the American Apprenticeship Initiative



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About This Report

With funding from the H-1B visa program, the U.S. Department of Labor (DOL) American Apprenticeship Initiative (AAI) funded 46 grantees across the country to expand registered apprenticeship into new sectors, such as healthcare, and to populations underrepresented in apprenticeships. DOL commissioned an evaluation of the AAI grants to build evidence about the effectiveness of registered apprenticeship for apprentices and employers. This report presents findings on grantee program operations from fall 2017 (approximately two years into the grant when data were first available) through summer 2021, when most grantees had concluded their grant activities and others were close to finishing. The report documents the degree to which grantees collectively met their apprenticeship program registration targets, their apprentice registration targets, and their pre-apprentice program implementation and enrollment targets. It also describes variation on these among grantees.

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Glossary of Terms

Apprenticeship agreement: A written agreement between an apprentice and the apprentice’s program *sponsor*, or sometimes an apprenticeship committee acting as agent for the program sponsor, that contains the terms and conditions of the employment and training of the apprentice.

Grantee: The entity that received the DOL grant. AAI grantees included State government agencies, colleges, nonprofit organizations, sub-State agencies, and sector-based organizations (i.e., labor associations or federations; joint labor-management committees; and industry, professional, or trade associations). The grantee may have used its funds to establish its own *registered apprenticeship program* or supported one or more *sponsors* to register programs.

Mentor: Provides *on-the-job learning* opportunities for apprentices. Mentors are other employees of the hiring employer.

Occupation, occupational field: The specific job associated with an apprenticeship program. The DOL Office of Apprenticeship or a State Apprenticeship Agency, which assigns the job a distinct occupational code, must approve occupational fields. Grantees can operate multiple apprenticeship programs within an occupational field, and *sponsors* can operate multiple programs across different fields.

On-the-job learning (OJL): Every apprenticeship program includes OJL. Apprentices get hands-on training from an experienced *mentor* at the job site for typically not less than one year. Structured OJL experiences are developed by mapping the skills and knowledge that the apprentice must learn over the course of the program to be fully proficient at the job. Employers traditionally bear most training-related costs. AAI grant funds could be used to support the OJL to reimburse employers for mentor time.

Partner, partner organization: An entity, besides an employer or a union, that collaborates with the grantee to provide support for grant activities. Partner organizations can include public agencies, community colleges, nonprofit organizations, and industry associations.

Pre-apprenticeship program: Prepares individuals to enter and succeed in an apprenticeship program through an approved training curriculum based on industry standards. Can include educational and pre-occupational services (e.g., career and industry awareness workshops, job readiness courses), hands-on training in a simulated lab experience or through volunteer opportunities, and assistance in applying to apprenticeship programs. Pre-apprenticeship programs involve formal partnerships with at least one apprenticeship program *sponsor*.

Registration Agency: The DOL Office of Apprenticeship or a federally recognized State Apprenticeship Agency acts as a Registration Agency, responsible for evaluating an apprenticeship program’s apprenticeship standards and for ongoing evaluation of apprenticeship programs to determine whether they comply with federal regulations related to program design, worker protections, and other criteria. Programs in compliance are “registered.” Registered programs can access federal resources, State tax credits where available, and technical assistance.

Registered apprenticeship program: A structured program of work-based learning under *mentors*, providing both value to employers and formal technical instruction to workers, and culminating in an industry-recognized credential that meets standards for registration by a *Registration Agency*. An apprenticeship *sponsor* for a specific *occupation* runs the training program. *Sponsors* are responsible for

registering individual apprentices and determining whether they have successfully completed the apprenticeship program.

Registered apprenticeship program addition, expansion, maintenance, or revision: Changes to an existing *registered apprenticeship program*, including the development of programs in additional *occupational fields* by an existing apprenticeship *sponsor*. Maintenance or expansion may also entail transitioning from a time-based apprenticeship to a competency-based or a hybrid apprenticeship.

Related technical instruction (RTI): Instruction that complements the apprentice's *on-the-job learning*, delivering the technical concepts and workforce and academic competencies needed to succeed on the job. A community college, a technical school, an apprenticeship training school, or the employer itself can provide the instruction. Education *partners* collaborate with employers to design the curriculum to deliver the skills and knowledge needed by apprentices. All partners work together to identify how to pay for the RTI, including the cost to the employer and other funds that can be leveraged.

Sponsor: Entity responsible for the overall operation of a *registered apprenticeship program*, working in collaboration with *partner organizations*. Sponsors can be a single employer or a consortium of employers. Alternatively, the sponsor can be any of a range of workforce intermediaries including an industry association or a joint labor-management organization. Community colleges and community-based organizations can also serve as sponsors.

Standards of Apprenticeship: Document maintained by the apprenticeship sponsor that describes apprenticeship components for a specific job role. Its individual standards include the purpose of the proposed apprenticeship program, the term of the apprenticeship, the provision of *related technical instruction*, wage progression for the apprenticeship, supervision of apprentices, safety, registration of apprentices, work process schedule, probation period, periodic evaluation of apprentices' performance, completion requirements, and apprentice/*mentor* ratio.

Executive Summary

The U.S. Department of Labor (DOL) launched the American Apprenticeship Initiative (AAI) in October 2015 to expand registered apprenticeship in the United States. Funded by the H-1B visa program, AAI aimed to expand registered apprenticeship programs into high-growth sectors with few apprenticeships, such as healthcare, information technology (IT), and advanced manufacturing, and to make registered apprenticeship accessible to populations historically underrepresented in apprenticeship, including women, racial and ethnic minorities, and veterans. To learn more about grantee activities, employer experiences, and apprentice outcomes, DOL commissioned an evaluation of the AAI grants in 2016. The AAI implementation study, the focus of this report, aims to document the design and operation of grantee apprenticeship programs; identify potentially promising practices and perceived challenges that can inform policy and program design; and provide important context for the other sub-studies. This report is the third and final implementation study report. It documents how grantees performed in relation to the targets outlined in their grant agreements for the number of programs registered, apprentices registered, and pre-apprentices served. Among the key findings are the following:

- AAI grantees collectively exceeded the apprenticeship program registration and apprentice registration targets articulated in their grant applications.
- Grantees collectively diversified apprenticeship occupations in healthcare, information technology, and advanced manufacturing in line with the goals of AAI.
- Grantees collectively registered apprentices from underrepresented populations, including women, young men and women of color, people with disabilities, and veterans; almost 70 percent of AAI registered apprentices were from underrepresented groups.
- Grantees collectively met targets for pre-apprentice enrollment; almost 90 percent of enrolled pre-apprentices were from underrepresented populations, an increase of about a third compared with enrolled apprentices.

1. Introduction

The U.S. Department of Labor (DOL) launched the American Apprenticeship Initiative (AAI) in October 2015 to expand registered apprenticeship in the United States.¹ Funded by the H-1B visa program, AAI aimed to expand apprenticeship into high-growth sectors and skilled occupations with few apprenticeships, such as healthcare, information technology (IT), and advanced manufacturing, and to make registered apprenticeship accessible to populations historically underrepresented in apprenticeship, including women, racial and ethnic minorities, and veterans. DOL awarded \$175 million in five-year grants to 46 grantees across the country.²

Apprenticeships are structured work-based training programs that combine technical instruction in a classroom with learning and mentoring experiences at an employer's worksite. Apprentices are employed during their training and earn progressively higher wages.³ Apprenticeships provide training in a specific occupation and deliver occupational skills that are recognized and transferable across employers.⁴ Apprenticeships have traditionally been used in the building trades, and most registered apprentices have been men (Gardiner et al. 2021).

AAI supports efforts to expand apprenticeships that are registered either with DOL's Office of Apprenticeship or with a federally recognized State Apprenticeship Agency (SAA). A registered apprenticeship adheres to guidelines around the length of related technical instruction (RTI) and on-the-

Box 1: Elements of Registered Apprenticeship

- **Approval** by DOL's Office of Apprenticeship or a State Apprenticeship Agency, or sometimes both
- **Related technical instruction (RTI)** of at least 144 hours in a physical or virtual classroom
- **On-the-job learning (OJL)** of at least 2,000 hours overseen by a mentor at the employer site
- **Wage increases** over the course of the apprenticeship (wage progression), which can be tied to time in the program or to demonstration of skill competency
- An **industry-recognized credential** upon completion of the apprenticeship
- A **Standards of Apprenticeship** document that formally describes the work process schedule (skill standards) and specifies the RTI, OJL, and wage progression for the registered apprenticeship program
- A **sponsor** to oversee the program and maintain the *Standards of Apprenticeship* and basic data on apprentices; sponsors can be employers, consortia of employers, unions, community colleges, State or local workforce agencies, or nonprofit organizations
- A **written apprenticeship agreement** between an apprentice and either the program sponsor or an apprenticeship committee acting as an agent for the sponsor

For information on components of registered apprenticeship, including OJL, see https://www.doleta.gov/oa/employers/apprenticeship_toolkit.pdf.

¹ The H-1B visa program allows qualified nonimmigrant workers to temporarily work in the United States when employers cannot otherwise obtain needed business skills and abilities from the U.S. workforce (<https://www.dol.gov/whd/immigration/h1b.htm>). The Funding Opportunity Announcement (FOA) for AAI indicated that industries and occupations proposed by grantees should be those where H-1B visas were being used by employers or that were otherwise high-growth industries. See DOL/ETA 2014.

² One grant ended prior to the start of data collection for the evaluation. This report presents findings for 45 grantees.

³ For example, wage increases can be tied to demonstration of skills mastery, completion of specified components, or time in the program (e.g., increases annually).

⁴ For more information on apprenticeship, see <https://www.apprenticeship.gov/employers/explore-apprenticeship>.

job learning (OJL) provided by a mentor at the employer’s worksite. A sponsor is responsible for the program and maintains the *Standards of Apprenticeship*, which documents the RTI, OJL, wage increases, and other aspects of the apprenticeship. Apprenticeship completers receive an industry-recognized credential (see Box 1).

To learn more about grantee activities, employer experiences, and apprentice outcomes, DOL commissioned an evaluation of the AAI grants in 2016. The evaluation includes four sub-studies

Box 2: AAI Evaluation Sub-studies

- An **implementation study** of the grantee apprenticeship programs
- A study of apprentice employment and earnings **outcomes**
- A study measuring the **return on investment** to employers
- An employer outreach and engagement **demonstration** that explores the impacts of training staff to market apprenticeships to employers

(see Box 2). The AAI implementation study, the focus of this report, aims to document the design and operation of grantee apprenticeship programs; identify potentially promising practices and perceived challenges that can inform policy and program design; and provide important context for the other sub-studies. This report is the third and final implementation study report. It documents how grantees performed in relation to the targets outlined in their grant agreements for the number of programs registered, apprentices registered, and pre-apprentices served. It complements the two previous implementation study reports that documented planning and implementation activities of all grantees based on a survey (Gardiner et al. 2021) and for a subset of 10 grantees selected for site visits (Copson et al. 2021).

The remainder of this chapter presents an overview of the AAI grants, provides the research questions the study was designed to address, describes the data sources, and outlines the remainder of the report.

1.1. Overview of AAI Grantees

The AAI grantees represent a diverse range of organizations, some with previous apprenticeship experience and others new to the workforce training model.

- **Grantee type.**⁵ Of the 45 grantees studied, 12 (27 percent) were State government agencies, 10 (22 percent) were colleges, 10 (22 percent) were other nonprofit organizations, nine (20 percent) were sub-State agencies, and four (9 percent) were sector-based organizations.
- **Grantees’ prior experience with registered apprenticeship.** Similar proportions of grantees had no prior experience with registered apprenticeship (33 percent), had some experience with

⁵ Grantees self-identified their organization type on a grantee survey administered in summer 2019. State government agencies include State departments of labor and industry. Colleges are generally community and technical colleges. Sub-State government agencies include local workforce development boards, American Job Centers, and local government agencies. Sector-based organizations are industry associations and labor organizations, or joint labor-management committees. Other nonprofit organizations include community or faith-based service providers and nonprofit training providers other than colleges. Some grantees that were closely affiliated with a joint labor-management committee self-identified as “nonprofits” instead of labor organizations because they were the nonprofit arm of that organization. As a result, labor-management committees are represented in both the “sector-based organizations” and “other nonprofit organizations” categories depending on how the grantee self-identified.

apprenticeship but not with developing programs (31 percent), and had developed registered apprenticeship programs before being awarded the AAI grant (36 percent).

- **Grant amount.** Grant sizes ranged from \$2.5 million (one grantee) to \$5 million (10 grantees). Most commonly, grantees received between \$2,500,001 and \$2,999,999 (18 grantees).

Although the original grant period ended in September 2020, grantees could request an extension for up to one year due in part to challenges related to operating grant activities during the COVID-19 pandemic. Of the 45 grantees, 36 requested extensions.⁶

1.2. Research Questions and Data Sources

This report addresses the following research questions:

- Overall, did AAI grantees collectively meet their apprenticeship program registration and apprentice registration targets articulated in their grant applications?
- How many pre-apprenticeship programs did grantees develop, and how many pre-apprentices did grantees enroll over the grant period?

The report uses two data sources.

- The primary source is the **Apprenticeship Quarterly Performance Report (Apprenticeship QPR)** data provided by grantees to DOL. The earliest quarter for which data were available is the quarter ending September 30, 2017—approximately 23 months into the original five-year grant period. At the time of writing (November 2021), Apprenticeship QPR data were available through most of the extension period as follows:
 - Analysis uses Apprenticeship QPR **summary data through the quarter ending June 30, 2021**, to document the progress of grantees overall toward achieving their targets for program and apprentice registration as well as pre-apprentices served.
 - Analysis uses Apprenticeship QPR **individual-level data through August 9, 2021**, to describe registered apprentices' and pre-apprentices' demographic and background characteristics and the industries associated with the occupations into which they registered.⁷
- The second data source for the report is a **survey of all AAI grantees** that inquired about a range of grant activities and is used in this report to examine progress toward targets by select grantee characteristics.⁸

⁶ In 2020, DOL announced that grantees could apply for an extension of up to 12 months to their five-year grants, through September 30, 2021. Of the 36 grantees that requested an extension, most (27) extended their grants through September 30, 2021. One extended through January 1, 2021; four extended to March 31, 2021; and four extended to June 30, 2021. Nine grantees did not extend their grants.

⁷ As of the writing of this report, the Apprenticeship QPR summary data were available through June 30, 2021. The individual-level data are from an extract through August 9, 2021. The individual-level data file includes an additional 1,782 apprentices registered after the June 30 Apprenticeship QPR summary data report.

⁸ The evaluation team administered the grantee survey online to all 45 AAI grantees in June and July 2019. All grantees responded. For details on the methodology, see Gardiner et al. 2021.

To simplify the discussion of the data across the quarters, the remainder of this report refers to data periods by the ending date. Thus, the summary data period is “through June 30, 2021” rather than “for the quarter ending June 30, 2021.” The individual-level data period is “through August 9, 2021.”

A few caveats are in order regarding the Apprenticeship QPR data. First, as noted earlier, some grantees received extensions through September 30, 2021; those grantees continued to register apprentices and apprenticeship programs, that are not reflected in this report. Thus, the data is incomplete.⁹

Second, the Apprenticeship QPR data has limitations that prevent analysis of the sponsors that registered apprenticeship programs and apprentices. In some instances, the grantee sponsored programs. In others, the sponsor was the employer, a consortium of employers, or an entity with which the grantee partners, such as a community college or community-based organization. The Apprenticeship QPR data linked apprenticeship programs to grantees, not sponsors. Thus, this report attributes registered programs to grantees, rather than sponsors, even though only about one-third of AAI grantees sponsored apprenticeship programs.

Third, the implementation study and this report focus exclusively on registered apprenticeships and apprentices associated with an AAI grant, which are not necessarily representative of all registered apprenticeship programs or apprentices. Therefore, the findings reported may not be generalizable to all apprentices and programs. Lastly, the study methodology precludes attributing observed outcomes solely to AAI grantees.¹⁰

1.3. About This Report

The remainder of this report describes apprenticeship program registration and occupations of registered apprentices (Chapter 2); documents apprentice registration, including success in registering apprentices from underrepresented populations (Chapter 3); summarizes grantee support of pre-apprenticeship programs and pre-apprentice enrollment (Chapter 4); and summarizes the findings (Chapter 5).

⁹ Final Apprenticeship QPR data through September 30, 2021, was available after the writing of this report. Between June 30, 2021, and September 30, 2021, grantees registered an additional 15 apprenticeship programs and 421 apprentices. These are not included in the analysis for this report.

¹⁰ To do so would require a different study methodology that includes a well-constructed counterfactual, either a randomized control group or a rigorous comparison group (developed by other means).

2. Apprenticeship Program Registration and Occupations of Apprentices

In their grant applications, grantees could propose to expand apprenticeships by registering new apprenticeship programs, converting existing work-based learning programs or internship models having educational components into registered apprenticeship programs, or growing existing registered apprenticeship programs. They specified the number of apprenticeship programs they planned to register as part of their grant activities, based on employer demand for skilled workers in particular occupations in their service area. Depending on local needs, grantees might have proposed to register a single program in one industry or multiple programs in one or more industries. DOL incorporated these targets into each grantee’s grant agreement. This chapter describes the extent to which AAI grantees—collectively and individually—met their program registration targets. It then describes the types of occupations in which they registered apprentices.

2.1. How many programs did grantees plan for and register?

In their grant agreements, the number of apprenticeship programs grantees aimed to register ranged from one to 350. Four grantees proposed to register only one program each, and another 16 grantees planned to register fewer than 10 programs each. At the other end of the spectrum, six grantees proposed to register 100 or more programs each.

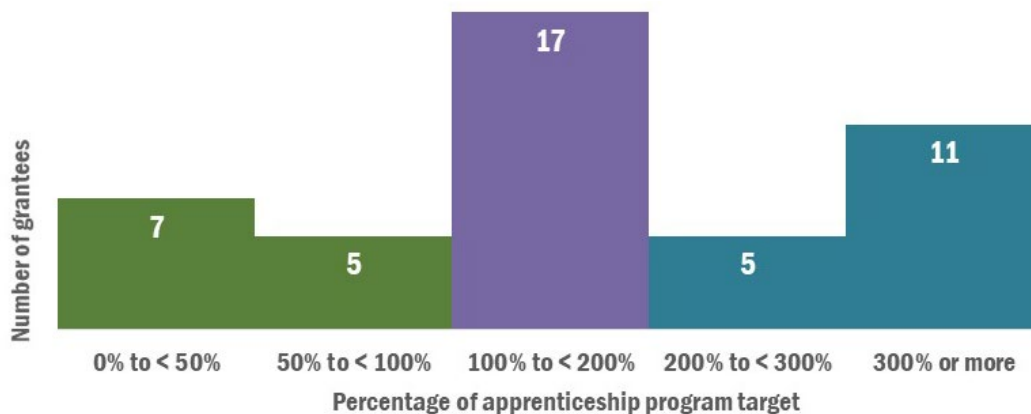
- **Collectively, AAI grantees exceeded their targets for number of apprenticeship programs registered.**

Through June 2021, grantees registered 2,111 programs, or 102 percent of their collective target of 2,074 programs documented in the 45 grant agreements. The median number of apprenticeship programs registered was 25. The fewest apprenticeship programs registered by a grantee was 1, and the most was 252.

- **Almost three-quarters of grantees met or exceeded their program registration goals.**

As shown on Exhibit 2-1, 17 grantees (38 percent) registered between 100 percent and 199 percent of their target number of programs, and another 11 (24 percent) registered 300 percent or more of their targets. Twelve (28 percent) did not meet their target as of June 30, 2021.

Exhibit 2-1. Distribution of Grantees’ Progress toward Their Apprenticeship Program Target



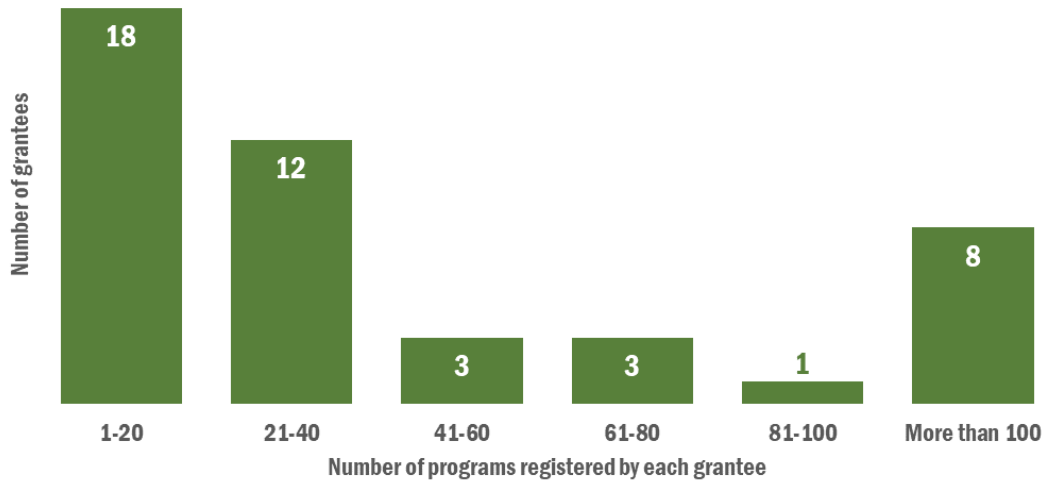
Source: Apprenticeship Quarterly Performance Report as of June 30, 2021. Reported at the grantee level. N=45 grantees.

2. APPRENTICESHIP PROGRAM REGISTRATION AND OCCUPATIONS OF APPRENTICES

The study also examined the number of registered apprenticeship programs registered by an individual grantee. Exhibit 2-2 shows the distribution of grantees by the number of apprenticeship programs each registered. Eighteen grantees (40 percent) registered between one and 20 apprenticeship programs each, and 12 (27 percent) registered between 21 and 40 programs each. Eight grantees (18 percent) registered more than 100 apprenticeship programs each.

Grantees receiving more funding generally registered more apprenticeship programs (not shown). For example, grantees that registered 1–20 programs received less than \$3,400,000 each in grant funding, on average, whereas those registering 100 or more programs received more than \$4,400,000 each.

Exhibit 2-2. Number of Apprenticeship Programs Registered per Grantee



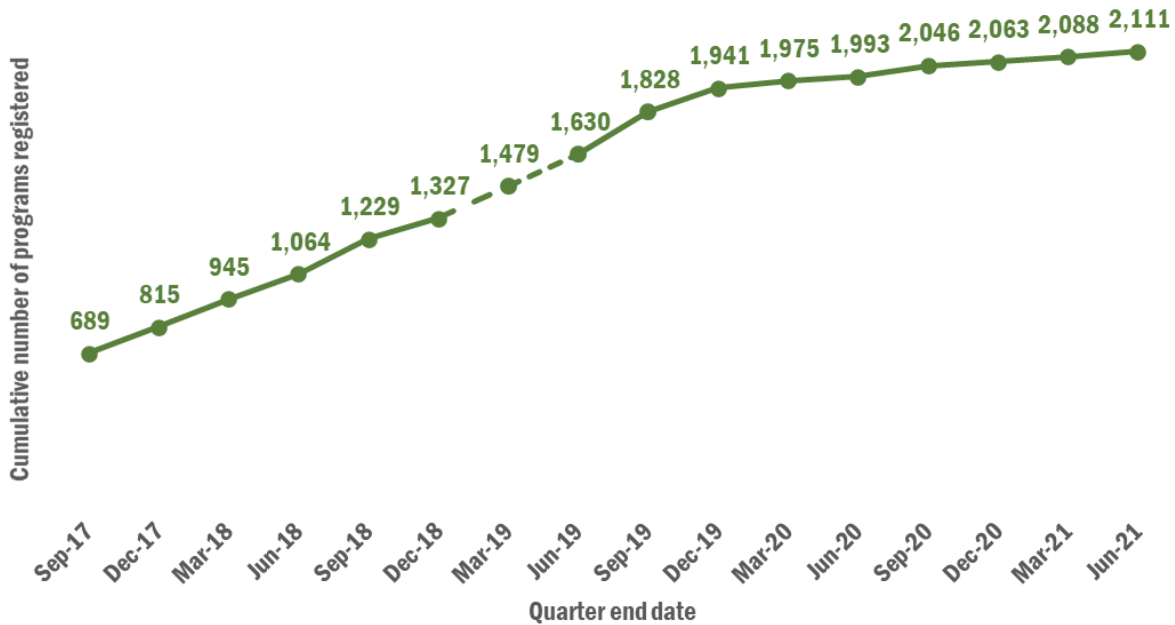
Source: Apprenticeship Quarterly Performance Report as of June 30, 2021. Reported at the grantee level. N=45 grantees.

■ ***Grantees registered apprenticeship programs at a greater pace in the first half of the grant period than in the second half.***

Apprenticeship program registration occurred at a faster pace earlier in the grant period. Approximately two years into the grant (September 2017), when Apprenticeship QPR data were first available, grantees had registered almost 700 programs. Two years later (September 2019), grantees had registered about 1,800 programs, which represented an average increase of 13 percent per quarter (Exhibit 2-3). Growth in the number of programs then slowed to an average of 2 percent per quarter in the final 18 months covered by summary data in this report (October 2019 through June 2021). This pattern suggests that most grantees focused their early efforts on program development, then once they registered their programs focused on recruitment and registration of individual apprentices. Still, grantees continued to register programs through the end of the grant period, including after March 2020, when the COVID-19-related lockdowns began.

2. APPRENTICESHIP PROGRAM REGISTRATION AND OCCUPATIONS OF APPRENTICES

Exhibit 2-3. Total Number of Apprenticeship Programs Registered (September 2017 through June 2021)



Source: Apprenticeship Quarterly Performance Report (QPR) as of June 30, 2021. Reported at the grantee level. N=45 grantees.

Note: The data point for the quarter ending March 31, 2019, was imputed to replace missing data from that quarter's Apprenticeship QPR with a substituted value. The imputed data point is the average of the preceding and succeeding quarters. It is indicated by a dashed line.

Comparing grantees' target number of registered programs versus the actual number shows that by September 2017 (two years into the grant period), 19 grantees (42 percent) had already met their five-year target for program registrations.¹¹

2.2. In which occupational areas were AAI apprentices registered?

One goal of AAI is to expand registered apprenticeship to nontraditional occupations—that is, occupations outside of the building trades. This section explores specific occupations in which programs registered apprentices, including the extent to which they were nontraditional occupations and variation by gender. In this report, nontraditional refers to occupations for which registered apprenticeship has not traditionally been used as a training and hiring strategy, which is in industries other than the building trades.¹²

¹¹ Though the timing of the slowdown in registering programs corresponds with the onset of the COVID-19 pandemic (in March 2021), the study cannot attribute the slowdown to the pandemic with the available data. Based on phone discussions with the 10 grantees the evaluation team visited for the implementation study, activities slowed in the early part of the pandemic as grantees addressed the challenges associated with it. However, by March 2020, many grantees had registered their planned number of programs.

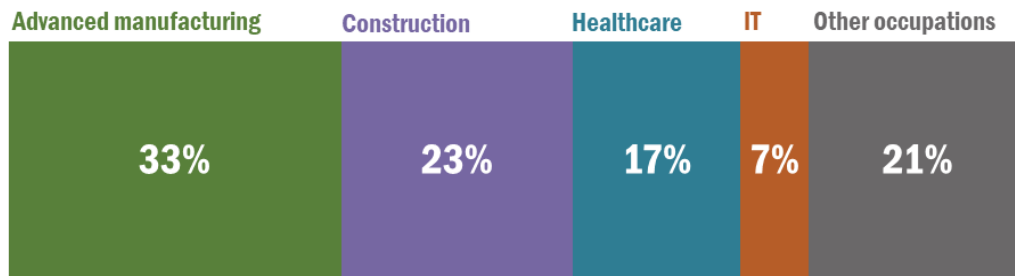
¹² The AAI Funding Opportunity Announcement specifies that grants focus on occupations in high-growth industries such as IT, advanced manufacturing, business services, and healthcare. See <https://www.dol.gov/sites/dolgov/files/ETA/grants/pdfs/FOA-ETA-15-02.pdf>.

2. APPRENTICESHIP PROGRAM REGISTRATION AND OCCUPATIONS OF APPRENTICES

■ **Most AAI apprentices registered in nontraditional occupations.**

Three-quarters (77 percent) of apprentices registered in nontraditional occupations. As shown on Exhibit 2-4, advanced manufacturing occupations accounted for one-third of registered apprentices. Healthcare occupations and IT occupations accounted for 17 percent and 7 percent of apprentices, respectively, thus together exceeding the proportion of apprentices in construction.¹³ Another 21 percent were in other occupations, including insurance, banking, and transportation.

Exhibit 2-4. Distribution of Grantees’ Registered Apprentices, by Occupational Field



Source: Apprenticeship Quarterly Performance Report, as of August 9, 2021. Reported at the individual level. N=30,305 apprentices. Occupational information was missing for 1,030 apprentices.

Note: Does not sum to 100% due to rounding.

■ **Apprentice occupation varied by gender.**

Most men (72 percent) and women (91 percent) apprentices entered nontraditional occupations (i.e., occupations in industries other than the building trades); however, the occupational focus differed by gender. Whereas women most often entered apprenticeships in healthcare-related occupations, men most commonly entered advanced manufacturing ones (Exhibit 2-5). Still, over one-quarter of men apprentices entered a traditional, construction-related occupation.

Exhibit 2-5. Distribution of Apprentices by Gender and Occupation



Source: Apprenticeship Quarterly Performance Report, as of August 9, 2021. Reported at the apprentice level. For women, N=8,508. For men, N=21,714.

¹³ Healthcare IT occupations, which were primarily Medical Records and Health Information Technicians, are classified under healthcare.

3. Registered Apprentices: Meeting Targets and Characteristics

As they did for registering programs, grant applicants specified the number of apprentices they planned to register as part of their grant activities. DOL then incorporated these targets into each grantee’s grant agreement. This section summarizes the number of apprentices, grantee success in registering their target number of apprentices, and the characteristics of registered apprentices, including the proportion from underrepresented groups.

3.1. How many apprentices did AAI grantees register?

In their AAI applications, grantees’ apprentice registration targets ranged from 300 apprentices to 1,450. Thirteen grantees proposed to register 300 apprentices each. At the other end of the spectrum, 17 aimed to register 1,000 apprentices or more each.

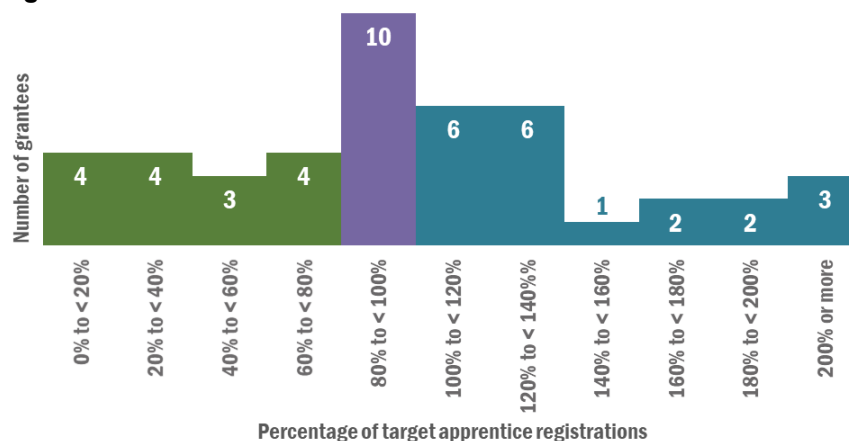
- **Collectively, AAI grantees exceeded their targets for number of apprentices registered.**

Through June 2021 (approximately five and a half years into program operations), the 45 AAI grantees registered a total of 29,553 apprentices, 103 percent of their collective target of 28,754 apprentices. The median number of apprentices registered was 535. The fewest apprentices registered by a grantee was 44, and the most was 2,165.

- **Two-thirds of grantees reached 80 percent or more of their registered apprentice target.**

As shown on Exhibit 3-1, 20 grantees (44 percent) met or exceeded their apprentice registration target (sum of blue bars), with three of them (7 percent) exceeding 200 percent of their targets. Another 10 grantees (22 percent) met between 80 and 100 percent of their targets (purple bar). The remaining 15 grantees (33 percent) met less than 80 percent of their apprentice registration target (sum of green bars).¹⁴

Exhibit 3-1. Distribution of Grantees’ Current Progress toward Their Apprentice Registration Target



Source: Apprenticeship Quarterly Performance Report, as of June 30, 2021. Reported at the grantee level. N=45.

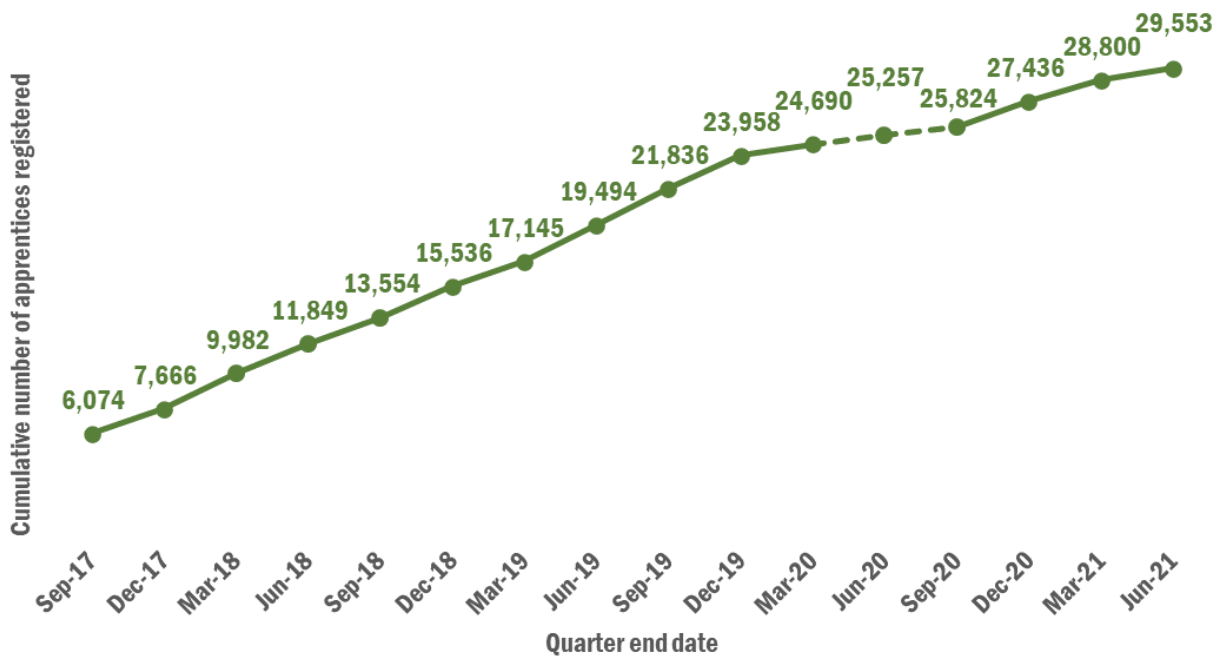
¹⁴ As noted in Chapter 1, some grantees requested extensions through September 30, 2021. Thus, for a subset of grantees, total apprentices registered increased in the final months of their grant.

3. REGISTERED APPRENTICES: MEETING TARGETS AND CHARACTERISTICS

- **Grantees registered apprentices at a greater pace in the first half of the grant period than in the second half.**

As with registration of apprenticeship programs, apprentice registration occurred at a faster pace in the first four years of the grant. By September 2017, two years into the grant, when Apprenticeship QPR data are first available, grantees had registered about 6,000 total apprentices. About two years later (December 2019), grantees had registered about 24,000 total apprentices, which represents an average increase of 17 percent per quarter (Exhibit 3-2). Growth in the number of apprentices then slowed to an average of 4 percent per quarter between January 2020 and June 2021. It is possible that growth slowed as grantees reached their targets and approached the end of the grant. Across the full period, the total number of apprentices registered increased by an average of 11 percent per quarter.

Exhibit 3-2. Total Number of Apprentices Registered (September 2017 through June 2021)



Source: Apprenticeship Quarterly Performance Report as of June 30, 2021. Reported at the grantee level. N=45 grantees.

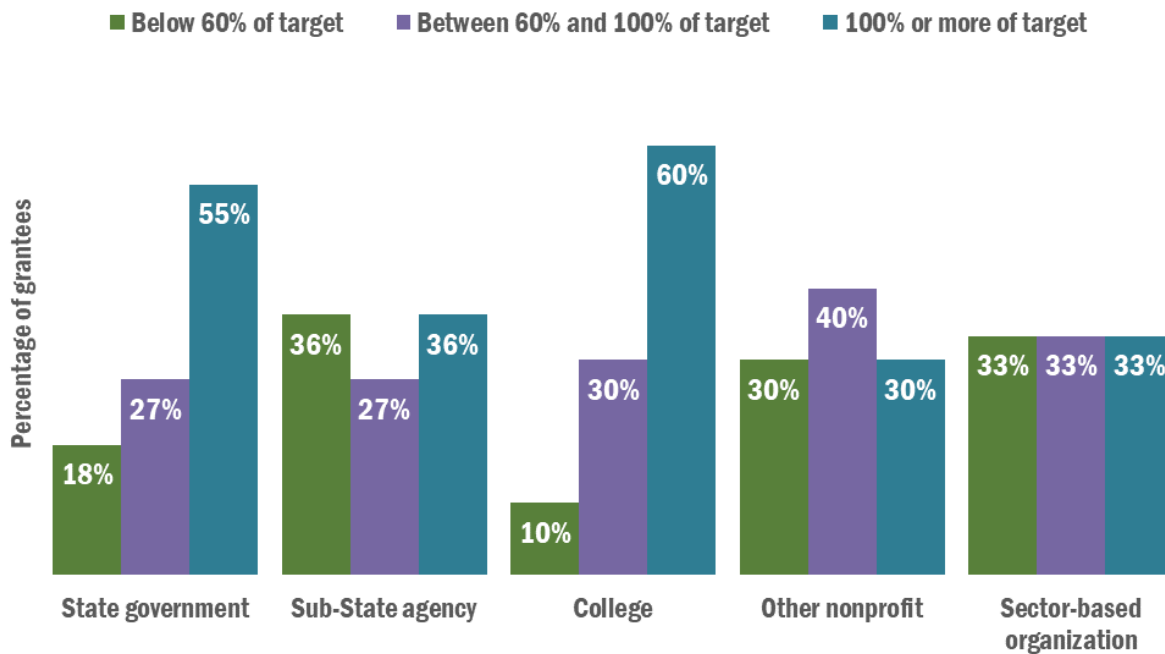
Note: The data point for the quarter ending June 30, 2020, was imputed to replace missing data from that quarter's Apprenticeship QPR with a substituted value. The imputed data point is the average of the preceding and succeeding quarters. It is indicated by a dashed line.

- **A larger share of grantees that were colleges or State governments achieved their apprentice registration targets relative to other types of grantees.**

Exhibit 3-3 shows, 60 percent of college grantees met or exceeded their apprentice registration target. More than half of State government grantees (55 percent) met or exceeded their targets. For the other three grantee types, a minority of grantees of each type met or exceeded their registration target (between 30 percent and 36 percent of grantees). Still, these figures represented an increase from December 2019 for all three types (not shown; see Gardiner et al. [2021]).

3. REGISTERED APPRENTICES: MEETING TARGETS AND CHARACTERISTICS

Exhibit 3-3. Grantees' Current Progress toward Their Apprentice Registration Target, by Grantee Type



Source: Apprenticeship Quarterly Performance Report, as of June 30, 2021. Reported at the grantee level. N=45.

Note: Not all subtotals sum to 100% due to rounding.

3.2. What are the characteristics of AAI apprentices?

As discussed in Chapter 1, a key goal of the AAI grant program is expanding apprenticeship opportunities to populations traditionally underrepresented in apprenticeship. In their grant applications, grantees proposed strategies to reach an array of underrepresented populations.¹⁵

■ **Two-thirds of registered apprentices were from underrepresented populations.**

Grantees succeeded in recruiting underrepresented populations. As of August 9, 2021, 68 percent of all apprentices registered were from underrepresented groups. Specifically, more than a quarter of apprentices were women (28 percent), 14 percent were Hispanic any race, and 17 percent were Black non-Hispanic (Exhibit 3-4). Almost one in 10 apprentices were veterans (9 percent); fewer were people with disabilities (2 percent).

Exhibit 3-4 also shows key characteristics of apprentices by gender. On average, women were older than men (average age 35 versus 32). A larger share of women than men were Black (21 percent versus 16 percent), and a smaller share of woman than men were White non-Hispanic (53 percent versus 63 percent). Three (3) percent of women were veterans compared to 11 percent of men.

¹⁵ The AAI Funding Opportunity Announcement describes underrepresented populations as women and others including young men and women of color; people with disabilities; low-skilled populations; and veterans, including transitioning service members. See <https://www.dol.gov/sites/dolgov/files/ETA/grants/pdfs/FOA-ETA-15-02.pdf>.

3. REGISTERED APPRENTICES: MEETING TARGETS AND CHARACTERISTICS

Exhibit 3-4. Characteristics of Registered Apprentices

Characteristic	All Apprentices	Women	Men
Gender (%)			
Women	28	–	–
Men	72	–	–
Race/ethnicity (%)			
Hispanic, any race	14	13	15
White, non-Hispanic	60	53	63
Black, non-Hispanic	17	21	16
Asian only	4	6	4
Native Indian only	2	3	1
Native Hawaiian only	1	1	1
Other race, non-Hispanic; Multiple races	1	2	1
Age (%)			
24 years or younger	28	22	30
25 to 34 years	36	35	36
35 to 44 years	20	21	19
45 to 54 years	12	15	11
55 years or older	5	8	4
Average age (years)	33	35	32
Veterans (%)	9	3	11
People with disabilities (%)	2	1	2
Incumbent workers (%)	52	Not available	Not available
Total underrepresented populations (%)	68	Not available	Not available

Source: Apprenticeship Quarterly Performance Report, as of August 9, 2021. Reported at the apprentice level. For the total, gender N=31,252; race/ethnicity N=28,580; age N=31,332; veterans and people with disabilities N=31,335; incumbent workers and underrepresented population N=29,553. For women, race/ethnicity N=7,972; age N=8,789; veterans and people with disabilities N=8,789. For men, race/ethnicity N=20,560; age N=22,460; veterans and people with disabilities N=22,463.

Note: Incumbent workers and total underrepresented populations are not available by gender because these subgroups are reported in the aggregate in the Apprenticeship QPR dataset. Not all subtotals sum to 100% due to rounding.

■ **More than half of apprentices registered worked for their employer prior to starting the apprenticeship.**

Fifty-two percent of registered apprentices were incumbent workers; that is, they worked for their employer prior to starting the apprenticeship. Information gathered through visits to a subset of AAI grantees and discussed by Copson et al. (2021) suggests that employers preferred to invest in apprenticeship for workers who had demonstrated readiness for more complex roles through their tenure working for the employer. In addition, employers reported it was easier to hire externally for lower-skilled positions than to identify external candidates for higher-skilled positions.

4. Pre-Apprenticeship Programs and Pre-Apprentice Characteristics

AAI grantees could use funds to support pre-apprenticeship programs. These programs provide an approved training curriculum based on industry standards that can help prepare individuals to enter and succeed in a registered apprenticeship program. Pre-apprenticeship programs can include educational and pre-occupational services (e.g., career and industry awareness workshops, job readiness courses), hands-on training in a simulated lab experience or through volunteer opportunities, and assistance in applying to apprenticeship programs. These programs may also be directly linked to registered apprenticeship programs. Pre-apprenticeships are not regulated, and they vary more from program to program than do registered apprenticeship programs.¹⁶

This section describes pre-apprenticeship programs reported by AAI grantees, the total number of pre-apprentices enrolled, and characteristics of pre-apprentices.

4.1. How many pre-apprenticeship programs did AAI grantees implement?

An earlier AAI implementation study report documented that 73 percent of grantees implemented a pre-apprenticeship program (Gardiner et al. 2021). As with apprenticeship programs and apprentices, AAI applicants that proposed pre-apprenticeship programs specified in their grant applications the number of programs and pre-apprentices they planned as part of their grant activities. DOL incorporated these targets into each grantee's grant agreement. Additionally, some grantees that did not describe pre-apprenticeship plans in their applications subsequently implemented pre-apprenticeship programs during the grant period.

- ***AAI grantees implemented more than twice as many pre-apprenticeship programs as they proposed in their grant applications.***

Almost half of grantees (22) proposed to implement pre-apprenticeship programs, setting a target in their grant applications for the number they expected to implement; collectively, their target was 109 programs. As of June 2021, these 22 grantees implemented 186 pre-apprenticeship programs, or 170 percent of their target (Exhibit 4-1). An additional 17 grantees did not propose in their grant applications to implement a pre-apprenticeship program, but ultimately implemented one or more programs with their grant funds.¹⁷ In total, 39 grantees implemented 271 pre-apprenticeship programs, or 249 percent of the number targeted in AAI grant applications.

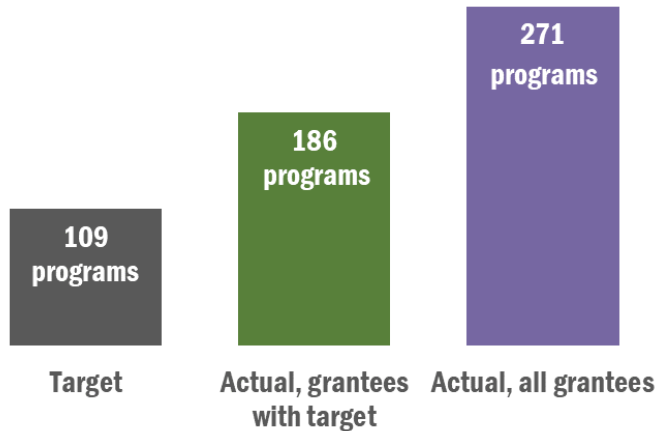
¹⁶ In 2012, DOL issued guidance in a Training and Employment Notice (TEN) to define a quality pre-apprenticeship program and the AAI FOA specified that grantees should develop quality pre-apprenticeships and other strategies to facilitate entry into registered apprenticeships. See https://wdr.doleta.gov/directives/attach/TEN/TEN_13-12.pdf.

¹⁷ The data available does not indicate why grantees that did not plan to implement pre-apprenticeship programs nonetheless did so. However, interviews with grantee staff conducted during site visits suggest some possibilities (see Copson et al. 2021). For example, some grantees reported enrolling prospective apprentices in a community or technical college course to prepare them for a registered apprenticeship program. Other grantees reported identifying partners post grant award that offered pre-apprenticeships.

4. PRE-APPRENTICESHIP PROGRAMS AND PRE-APPRENTICE CHARACTERISTICS

Among those 39 grantees that implemented a pre-apprenticeship program, 34 (87 percent) developed fewer than 10 programs; of these, 25 developed three or fewer programs. Five grantees (13 percent) implemented more than 20 pre-apprenticeship programs, of which one grantee developed 88 (not shown).

Exhibit 4-1. Number of AAI Pre-Apprenticeship Programs Implemented (Actual versus Target)



Source: Apprenticeship Quarterly Performance Report as of June 30, 2021. Reported at the grantee level. N=22 for grantees that set a target number of pre-apprenticeship programs. N=39 for all grantees with pre-apprenticeship programs.

Note: "Target" is the proposed number of programs and "actual" is the number implemented.

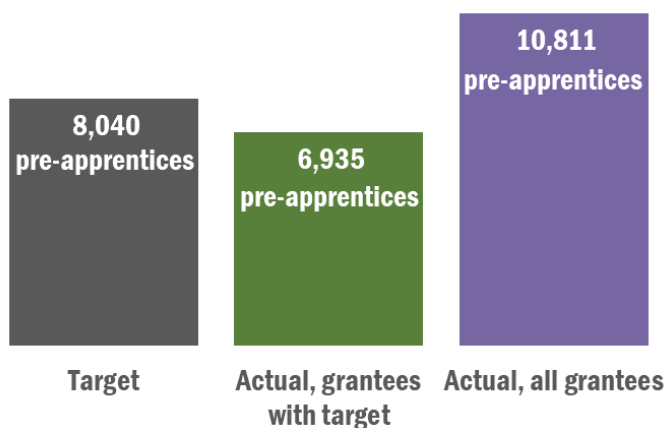
4.2. How many pre-apprentices did AAI grantees enroll?

This section describes the total number of individuals enrolled in pre-apprenticeship programs over the grant period and by quarter, from September 2017 through June 2021.

■ **AAI grantees enrolled 86 percent of their pre-apprentice targets.**

The 19 AAI grantees that developed a pre-apprentice target collectively enrolled 6,935 pre-apprentices, or 86 percent of their target of 8,040 (Exhibit 4-2). Nine of these 19 grantees (47 percent) met their targets. The 39 grantees that implemented pre-apprenticeship programs collectively enrolled 10,811 pre-apprentices, or 134 percent of the 8,040 targets. The number of pre-apprentices enrolled ranged from zero (for a grantee that had planned to implement pre-apprenticeship but did not) to 1,379 pre-apprentices (not shown).

Exhibit 4-2. Number of Pre-Apprentices Enrolled (Actual vs. Target)



Source: Apprenticeship Quarterly Performance Report as of June 30, 2021. Reported at the grantee level. N=39 grantees that implemented a pre-apprenticeship program.

Note: "Target" is the proposed number of pre-apprentices and "actual" is the number enrolled.

4. PRE-APPRENTICESHIP PROGRAMS AND PRE-APPRENTICE CHARACTERISTICS

4.3. What are the characteristics of AAI pre-apprentices versus AAI apprentices?

- ***Eighty-eight percent of pre-apprentices were from underrepresented populations, a larger proportion than among apprentices.***

As Exhibit 4-3 shows, a larger proportion of pre-apprentices than apprentices were from underrepresented populations (88 percent versus 68 percent). Pre-apprentices were more diverse than apprentices in gender and race/ethnicity: 35 percent of pre-apprentices were women, 18 percent were Hispanic, 36 percent were White non-Hispanic, and 34 percent were Black non-Hispanic (versus 28 percent, 14 percent, 60 percent, and 17 percent, respectively, of apprentices). More pre-apprentices were veterans (14 percent versus 9 percent) and people with disabilities (7 percent versus 2 percent). Pre-apprentices and apprentices were relatively similar in age, although female pre-apprentices were four years older on average than males.

Exhibit 4-3. Characteristics of Registered Apprentices and Pre-Apprentices

Characteristic	All Apprentices	All Pre-Apprentices	Pre-Apprentice Women	Pre-Apprentice Men
Gender (%)				
Women	28	35	–	–
Men	72	65	–	–
Race/ethnicity (%)				
Hispanic, any race	14	18	16	19
White, non-Hispanic	60	36	32	38
Black, non-Hispanic	17	34	36	33
Asian only	4	6	7	5
Native Indian only	2	2	5	1
Native Hawaiian only	1	1	1	1
Other race, non-Hispanic; Multiple races	1	2	3	2
Age (%)				
24 years or younger	28	36	28	40
25 to 34 years	36	31	32	30
35 to 44 years	20	17	19	16
45 to 54 years	12	11	13	9
55 years or older	5	6	7	5
Average age (years)	33	31	34	30
Veterans (%)	9	14	7	19
People with disabilities (%)	2	7	5	8
Incumbent workers (%)	52	Not available	Not available	Not available
Total underrepresented populations (%)	68	88	Not available	Not available

Source: Apprenticeship Quarterly Performance Report, as of August 9, 2021. Reported at the apprentice/pre-apprentice level. For the apprentice total, gender $N=31,252$; race and ethnicity $N=28,580$; age $N=31,332$; veterans and people with disabilities $N=31,335$; incumbent workers and underrepresented population $N=29,553$. For the pre-apprentice total, gender $N=11,130$; race and ethnicity $N=10,656$; age $N=10,807$; veteran and people with disabilities $N=11,351$; underrepresented population $N=10,811$. For pre-apprentice women, race and ethnicity $N=3,699$; age $N=3,674$; veteran and people with disabilities $N=3,921$. For pre-apprentice men, race and ethnicity $N=6,856$; age $N=6,937$; veteran and people with disabilities $N=7,209$.

Note: Incumbent workers and underrepresented populations are not available by gender because these subgroups are reported in the aggregate in the Apprenticeship QPR dataset. Not all subtotals sum to 100% due to rounding.

5. Summary of Findings

DOL launched the American Apprenticeship Initiative to expand registered apprenticeship in high-growth industries and increase apprenticeship opportunities to traditionally underrepresented populations, including women, men and women of color, veterans, and people with disabilities. This section summarizes and discusses findings from this final implementation study report.

As reported in the previous chapters, grantees collectively achieved the goals of the initiative. Doing so was not a simple accomplishment. First, grantees identified employers willing to adopt apprenticeship as a workforce strategy. Then they collaborated with employers to develop and register the apprenticeship program, and often helped recruit apprentices. One-third of grantees had no experience with registered apprenticeship, yet collectively grantees registered almost 2,100 programs and nearly 30,000 apprentices. There was great variation in grantee performance. Similar numbers of grantees exceeded their program registration target by 300 percent or more (11) as failed to meet their target (12). The range of outcomes is to be expected given the diversity of grantees.

Key Findings

AAI accomplished its goals in the number of apprenticeship programs registered and number of registered apprentices enrolled in these programs.

- AAI grantees registered 2,111 apprenticeship programs, or 102 percent of their collective 2,074 target. AAI grantees registered 29,553 apprentices, 103 percent of their collective 28,754 target.
- Program and apprentice registration continued through the grant period, including during the months following the onset of the COVID-19 pandemic.

The 45 grantees varied individually in the extent to which they achieved these goals.

- Thirty-three grantees (73 percent) met or exceeded their apprenticeship program registration targets, compared to 12 grantees (27 percent) that did not.
- Twenty grantees (44 percent) met or exceeded their apprentice registration targets, whereas 25 grantees (56 percent) did not. However, across all grantees, 30 grantees (67 percent) met at least 80 percent of their targets.
- In terms of grantees' organizational type, 60 percent of colleges met or exceeded their targets for registered apprentices, followed by State government agencies (55 percent). For the other three grantee types (sub-State agency, nonprofit organization (other than colleges), and sector-based organization), the proportion registering 100 percent or more of their targets ranged from 30 percent to 36 percent.

Grantees successfully registered apprentices in nontraditional occupations.

- Overall, 77 percent of registered apprentices were in nontraditional apprenticeship occupations. Of these apprentices, one-third (33 percent) were in advanced manufacturing, 21 percent in "other" occupations, 17 percent in healthcare, and 7 percent in IT.
- Men most commonly registered in advanced manufacturing (39 percent) and construction (28 percent) occupations, and women most commonly registered in healthcare (51 percent) and "other" (18 percent) occupations, including insurance, banking, and transportation.

- More women (91 percent) than men (72 percent) registered in nontraditional apprenticeship occupations.

Grantees successfully recruited apprentices from underrepresented populations.

- Almost 70 percent of apprentices were from underrepresented populations: women (28 percent of apprentices), Hispanic (14 percent), Black non-Hispanic (17 percent), Asian (4 percent), Native Indian (2 percent), Native Hawaiian (1 percent), and veterans (9 percent).
- A larger share of women than men were Black non-Hispanic (21 percent versus 16 percent), whereas more men than women were White non-Hispanic (63 percent versus 53 percent). Three (3) percent of women were veterans, compared to 11 percent of men.

More than half of registered apprentices (52 percent) were incumbent workers; that is, they already were working for their employer prior to starting the apprenticeship.

Grantees also collectively exceeded all targets for pre-apprenticeship.

- Twenty-two (49 percent) grantees proposed in their grant applications to implement one or more pre-apprenticeship programs. Ultimately, 39 grantees (87 percent) implemented a pre-apprenticeship program, 77 percent more than had planned.
- Collectively, the 39 grantees that implemented a pre-apprenticeship program enrolled 10,811 pre-apprentices, 34 percent more than they proposed in their grant applications.
- Compared to apprentices, more pre-apprentices (88 percent) were from underrepresented populations.

Additional Implementation Study Reports

Two earlier reports from the evaluation's implementation study provide complementary information to this final implementation report. One report describes how grantees designed and implemented apprenticeship programs and served the goals of the initiative at approximately four years into the grant period (Gardiner et al. 2021). The second report profiles 10 grantees selected for site visits and summarizes their grant-funded activities (Copson et al. 2021).

References

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- Gardiner, Karen, Daniel Kuehn, Elizabeth Copson, and Andrew Clarkwest. 2021. *Expanding Registered Apprenticeship in the United States: Description of American Apprenticeship Initiative Grantees and Their Programs*. Report prepared for the U.S. Department of Labor, Employment and Training Administration. Rockville, MD: Abt Associates; Washington, DC: Urban Institute.
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