



## Occupational and Sectoral Training



This brief summarizes evidence from the Pathways to Work Evidence Clearinghouse about interventions that provide occupational and sectoral training. These are two related strategies for helping people with low incomes improve employment and earnings outcomes. The Pathways to Work Evidence Clearinghouse defines occupational and sectoral training as training designed to prepare clients for professional opportunities within a specific occupation, such as truck driving or welding, or a specific sector, such as health care or manufacturing. Occupational and sectoral training is often provided in fields that are growing or in high demand. In addition to providing classroom or practical instruction in occupational or sectoral skills, these interventions often match clients with a case manager and a job developer. Case managers refer clients to available services based on their needs, and job developers provide placement services and follow-up support for several weeks or months after clients are placed into employment. Because the types of training and services offered by occupational training interventions and sectoral training interventions are usually similar, this brief summarizes evidence for occupational and sectoral training interventions together. Many occupational and sectoral training interventions can also be classified as using a career pathways service-delivery strategy.<sup>1</sup>

### What is occupational and sectoral training?

The Pathways to Work Evidence Clearinghouse defines occupational and sectoral training as training designed to prepare clients for professional opportunities within a specific occupation, such as truck driving or welding, or a specific sector, such as health care or manufacturing.

### What are Evidence Snapshots?

Evidence Snapshots are short briefs on the effectiveness of programs that use a specific approach to service provision. These briefs draw on interventions that the Pathways Clearinghouse has reviewed. They summarize what we know about programs that use a specific service (such as occupational or sectoral training) or a common service-delivery strategy (such as career pathways).

### What is the Pathways Clearinghouse?

The Pathways Clearinghouse identifies interventions that aim to improve employment outcomes, reduce employment challenges, and support self-sufficiency for people with low incomes, especially recipients of public benefits. The Pathways Clearinghouse conducts a transparent, comprehensive search for studies of such interventions, rates the quality of those studies to assess the strength of the evidence they provide, and determines the evidence of effectiveness for the studied intervention.

For more information, visit the Pathways Clearinghouse website: <https://pathwaystowork.acf.hhs.gov/>.

## What does the evidence say?

The Pathways Clearinghouse identified 23 interventions in which occupational or sectoral training was the primary focus of the intervention, or the primary service.<sup>2</sup> These interventions were each examined in at least one high- or moderate-rated study that reported employment, earnings, public benefit receipt, or education and training outcomes.<sup>3</sup> This Evidence Snapshot summarizes 24 studies of these 23 interventions reviewed by the Pathways Clearinghouse. These studies were conducted between 1984 and 2015, and were published through May 2022.<sup>4</sup>

For this snapshot, the Pathways Clearinghouse considered earnings, employment, public benefit receipt, and education and training findings in the short term (18 or fewer months) and long term (between 18 months and 5 years). Across these studies, we observe the following:



**Short-term annual earnings increased by \$4,031, and long-term annual earnings increased by \$246, on average, across the 19 occupational and sectoral training interventions for which these outcomes could be calculated.**<sup>5</sup> Six occupational and sectoral training interventions increased clients' earnings, either in the short term or long term. Three of these interventions increased earnings in the short term, and three increased earnings in the long term.<sup>6</sup> The average short-term effect was affected by a single intervention, Wisconsin Regional Training Partnership, Manufacturing Pathway, which increased short-term earnings by more than \$13,000. The median increase in short-term earnings, which is less sensitive to interventions with very high or low effects, was \$272.<sup>7</sup>



**Short-term employment increased by 7 percentage points, and long-term employment increased by 1 percentage point, on average, across the 22 occupational and sectoral training interventions for which these outcomes were examined.** One intervention increased employment in the short and long term, four interventions increased employment in the short term only, and one intervention increased employment in the long term only.



**The proportion of people receiving public benefits did not change in the short term or long term, on average, across the seven occupational and sectoral training interventions for which this outcome was examined. The amount of annual public benefits received decreased by \$32 in the long term, on average, across the 2 occupational and sectoral training interventions for which this outcome were examined.** No individual intervention reduced the proportion of people receiving public benefits or the amount of public benefits received in the short or long term.<sup>8</sup>



**Education and training attainment increased by 5 percentage points, on average, for the 10 interventions that examined this outcome.**<sup>9</sup> Six occupational and sectoral training interventions increased education and training attainment.



**One occupational and sectoral training intervention, [Project Quality Employment Through Skills Training \(QUEST\)](#), had positive effects on three outcome domains examined by the Pathways Clearinghouse: long-term earnings, short- and long-term employment, and education and training outcomes.** Four additional interventions had positive effects on two outcome domains. These interventions were [Integrated Basic Education and Skills Training \(I-BEST\)](#), [Partners for a Competitive Workforce: Advanced Manufacturing Partnership \(AMP\)](#), [Partners for a Competitive Workforce: Health Careers Collaborative of Greater Cincinnati \(HCCGC\)](#), and [Wisconsin Regional Training Partnership Manufacturing Pathway \(WRTP-MP\)](#).

## How does the Pathways Clearinghouse assess if an intervention is effective?

The Pathways Clearinghouse assigned an evidence of effectiveness rating to each intervention in each of four outcome domains: earnings, employment, benefit receipt, and education and training. Most of the domains are broken into short term (18 or fewer months) and long term (between 18 months and 5 years) because we expect the interventions might have different effects in different time periods. The Pathways Clearinghouse also cataloged very long-term findings, which were measured more than five years after participants were offered intervention services. The education and training domain is not broken into time periods because after you obtain a degree, you cannot lose it in the future. The evidence of effectiveness rating describes the extent of support that the intervention is likely to produce favorable results in that domain if faithfully replicated with a similar population. If an intervention had no evidence to assess support in any domain, we excluded it from this brief.

### There are six ratings:

- ★ *Well-supported* means there are at least two moderate- or high-quality studies with statistically significant favorable findings.
- ⬆️ *Supported* means there is one moderate- or high-quality study with statistically significant favorable findings.
- ⚖️ *Mixed support* means there are some statistically significant findings from moderate- or high-quality studies both that the intervention improves outcomes and that it worsens outcomes.
- ✖️ *Not supported* means that we have the strongest evidence that the intervention is unlikely to produce substantial favorable results in a given outcome domain. Studies of these interventions have found only a pattern of null and/or unfavorable findings. We only consider impact studies of at least moderate quality in determining this rating.
- ⚪️ *Insufficient evidence to assess support* means there are moderate- and high-quality studies but we cannot assign one of the other ratings.
- ⚪️ *No evidence to assess support* means there are no moderate- or high-quality studies.

Full definitions of each rating are located in the [Pathways Clearinghouse protocol](#).

No occupational or sectoral interventions received the well-supported rating in any of the outcome domains of interest to the Pathways Clearinghouse. Eight occupational and sectoral interventions received a supported rating in at least one outcome domain.

Evaluations compared the outcomes of study participants in the intervention group to the outcomes of participants in a comparison group who were not offered the occupational or sectoral training intervention but who might have received alternative services. People in the comparison group had access to (1) other services provided by the organization or available in the community (about 79 percent of studies of occupational and sectoral training interventions) or (2) a less intensive version of services (about 21 percent of studies of occupational and sectoral training interventions).<sup>10</sup>

## How does the Pathways Clearinghouse calculate the average effect of an intervention?

For this brief, the Pathways Clearinghouse calculated the average effect for each domain by averaging effects within moderate- and high-quality studies, then within interventions, and then across occupational and sectoral training interventions. The average includes all studies, not just those with a supported rating or statistically significant findings,<sup>11</sup> because these studies still provide useful evidence in considering the overall effectiveness of occupational and sectoral training. We show the average and not the median for all outcomes except for short-term earnings because, for the most part, there are no outliers skewing the average. For short-term earnings we provide the median and the mean because of a small number of very large effects. For more information, visit the Pathways Clearinghouse website [Frequently Asked Questions](#).

## What makes an effect large?

The Pathways Clearinghouse classifies an effect as large if its corresponding effect size is more than 0.25 standard deviations. The effect size is the strength of the effect measured in standard units (that is, standard deviations). In 2018, an increase in annual earnings of \$5,229 would have an effect size of about 0.25.

## What interventions provide occupational and sectoral training as their primary service?

The Pathways Clearinghouse defines an intervention as a specific bundle of services or policies implemented in a given context. Exhibit 1 alphabetically lists and describes the 23 interventions for which occupational or sectoral training was the primary service, including information about populations served by the intervention, the setting where the intervention was provided (whether it was in urban, rural, or mixed settings), and when the evaluation was conducted. It also contains the effectiveness rating for each domain.

Many career pathways interventions have a primary service of occupational or sectoral training, though they bundle occupational or sectoral training with other services. Career pathways interventions may have primary services other than occupational or sectoral training. Those occupational or sectoral training interventions that use elements of a career pathways framework are marked with an asterisk in Exhibit 1.

**Exhibit 1.** Occupational and sectoral training interventions and their effectiveness by domain<sup>a</sup>

Intervention description	Populations and employment barriers <sup>b</sup>	Settings <sup>c</sup>	Year evaluation began <sup>d,e</sup>	Increase earnings	Increase employment	Decrease public benefit receipt <sup>f</sup>	Increase education and training
★ well-supported    ⬆ supported    ⚖ mixed support    ✗ not supported    ⚪ insufficient evidence    ○ no evidence							
<b>Atlanta Urban League (AUL) Minority Female Single Parent (MFSP) Program</b> The AUL MFSP Program served single mothers who identified as racial or ethnic minorities and as having low incomes. It offered adult basic education followed by occupational skills training in clerical and health fields and additional supports to prepare clients for advanced training and employment. <sup>9</sup>	People with low incomes	Urban only	1984	⚪	⚪	○	○
<b>Carreras en Salud (Careers in Health) Program*</b> Carreras en Salud provided courses and educational and employment assistance to Latino job seekers with low incomes to help them enroll in occupational training to gain the necessary skills and credentials for jobs as a Certified Nursing Assistant or Licensed Practical Nurse.	People who identify as Hispanic and people with very low incomes	Urban only	2011	⚪	⚪	○	⬆
<b>Center for Employment Training's (CET's) Minority Female Single Parent (MFSP) Program*</b> The CET MFSP Program served out-of-school youth who were parents and identified as racial or ethnic minorities. The program provided occupational skills training (including in data entry, word processing, and electrical assembly) and job placement assistance to prepare participants for employment and help them secure jobs. <sup>9</sup>	People with low incomes	Urban only	1984	⚪	⚪	○	⚪

Intervention description	Populations and employment barriers <sup>b</sup>	Settings <sup>c</sup>	Year evaluation began <sup>d,e</sup>	Increase earnings	Increase employment	Decrease public benefit receipt <sup>f</sup>	Increase education and training
★ well-supported   ↑ supported   ◐ mixed support   ✗ not supported   ◑ insufficient evidence   ○ no evidence							
<b>Health Careers for All*</b> Health Careers for All provided funding and services to people with low incomes to pursue occupational training for careers in health care.	People with low incomes	Tested in multiple settings	2012	◑	○	○	○
<b>Health Profession Opportunity Grants (HPOG) 1.0*</b> HPOG 1.0 provided education and training to people participating in Temporary Assistance for Needy Families (TANF) and other people with low incomes for occupations in the health care field.	People with low incomes and cash assistance recipients	Tested in multiple settings	2013	◑	◑	◑	○
<b>Health Profession Opportunity Grants (HPOG) 2.0*</b> HPOG 2.0 provided education and training to people participating in TANF and other people with low incomes for occupations in the health care field.	People with low incomes and cash assistance recipients	Tested in multiple settings	2016	◑	◑	○	↑
<b>Integrated Basic Education and Skills Training (I-BEST)*</b> I-BEST helped students who were not yet eligible for college-level occupational training develop basic literacy, English as a second language, or numeracy skills. At the same time, students also attended community college and received occupational credentials in a variety of in-demand fields, such as allied health, welding, and clerical work.	People with low incomes	Urban only	2011	◑	↑	○	↑
<b>Madison Strategies Group (MSG) WorkAdvance Program</b> MSG WorkAdvance provided workers with intensive sectoral training and employment services in manufacturing and transportation to meet the needs of workers and local employers and improve employment outcomes.	People with low incomes	Urban only	2011	◑	◑	◑	○
<b>Partners for a Competitive Workforce: Advanced Manufacturing Partnership (AMP)*</b> AMP offered education, occupational training, and other supports to help people without jobs prepare for and secure in-demand advanced manufacturing jobs such as team assembler, welder, or electromechanical maintenance technician.	People who were unemployed	Tested in multiple settings	2010	↑	↑	○	○
<b>Partners for a Competitive Workforce: Construction Sector Partnership (CSP)*</b> CSP offered education, occupational training, and other supports to help people without jobs prepare for and secure in-demand construction trade jobs, including carpentry, electrical, and plumbing jobs.	People who were unemployed	Tested in multiple settings	2010	◑	◑	○	○



Intervention description	Populations and employment barriers <sup>b</sup>	Settings <sup>c</sup>	Year evaluation began <sup>d,e</sup>	Increase earnings	Increase employment	Decrease public benefit receipt <sup>f</sup>	Increase education and training
★ well-supported   ↑ supported   ◐ mixed support   ✗ not supported   ◑ insufficient evidence   ○ no evidence							
<b><u>Partners for a Competitive Workforce: Health Careers Collaborative of Greater Cincinnati (HCCGC)*</u></b> HCCGC offered education, occupational training, and other supports to help people without jobs prepare for and secure in-demand health care jobs, including in nursing, allied health, and biotechnology.	People who were unemployed	Tested in multiple settings	2010	↑	↑	○	○
<b><u>Pathways to Healthcare (PTH)*</u></b> PTH served people with low incomes interested in a career in health care. It offered occupational training to earn credentials in health care–related fields, as well as intensive advising and work readiness activities.	People with low incomes	Urban only	2012	◑	◑	✗	◑
<b><u>Pathways to Prosperity*</u></b> Pathways to Prosperity offered the following services to people with low incomes: occupational training and supportive services toward careers in environmentally focused green jobs and industries, a career preparation course, and adult basic education courses. <sup>g</sup>	People with low incomes	Urban only	2011	◑	◑	◑	○
<b><u>Patient Care Pathway Program (PCPP)*</u></b> PCPP provided occupational training to help people with low academic skills obtain basic skills remediation and occupational training in order to become eligible to enroll in degree or diploma programs focused on health care careers. Clients received accelerated instruction and academic advising by participating in one or more of three patient care academies.	People with low incomes	Urban only	2011	◑	◑	◑	◑
<b><u>Per Scholas Sectoral Employment Program (Per Scholas)</u></b> Per Scholas provided a computer technician training program, internships, soft skills training, and supportive services to people with low incomes to help them obtain computer certification and find jobs in the information technology sector. <sup>h</sup>	People with a high school diploma or GED	Urban only	2003	↑	◑	◑	○
<b><u>Project Quality Employment Through Skills Training (QUEST)*</u></b> Project QUEST provided financial resources and supportive services to people with low incomes to help them complete occupational training programs, pass certification exams, obtain credentials, and access well-paying jobs in the health care industry. <sup>h</sup>	People with a high school diploma or GED	Urban only	2006	↑	↑	◑	↑

Intervention description	Populations and employment barriers <sup>b</sup>	Settings <sup>c</sup>	Year evaluation began <sup>d,e</sup>	Increase earnings	Increase employment	Decrease public benefit receipt <sup>f</sup>	Increase education and training
★ well-supported   ↑ supported   ⊖ mixed support   ✗ not supported   ⊘ insufficient evidence   ○ no evidence							
<b><u>St. Nick's Alliance (SNA) WorkAdvance Program</u></b> SNA WorkAdvance provided intensive training and employment services in environmental remediation to meet the needs of workers and local employers and improve employment outcomes.	People with low incomes	Urban only	2011	⊘	↑	⊘	○
<b><u>Towards Employment (TE) WorkAdvance</u></b> TE WorkAdvance provided intensive training and employment services in the health care and manufacturing sectors to meet the needs of workers and local employers and improve employment outcomes.	People with low incomes	Urban only	2011	⊘	⊘	⊘	↑
<b><u>Valley Initiative for Development and Advancement (VIDA)*</u></b> VIDA supported full-time enrollment in educational programs in high-demand occupations, including health care, manufacturing, and technology. Supported programs included certificate programs, associate's degree programs, or the last two years of coursework to receive a bachelor's degree.	People with low incomes	Tested in multiple settings	2011	⊘	⊘	○	⊘
<b><u>Wider Opportunities for Women (WOW)'s Minority Female Single Parent (MFSP) Program*</u></b> MFSP-WOW provided job search assistance and basic skills and technical training courses in electricity and mechanics to help single parents of color with low incomes find jobs in nontraditional, high-paying occupations. <sup>9</sup>	People with low incomes	Urban only	1984	⊘	⊘	○	○
<b><u>Wisconsin Regional Training Partnership Sectoral Employment Program (WRTP-SEP)</u></b> WRTP-SEP provided certificate programs in health care and construction, soft skills training, case management, and supportive services to help people with low incomes find and keep better-paying jobs and to meet local industry needs. This intervention primarily served people with a 6th- to 10th-grade reading level.	People with low incomes and people who were formerly incarcerated	Tested in multiple settings	2003	↑	⊘	○	○
<b><u>Wisconsin Regional Training Partnership Manufacturing Pathway (WRTP-MP)*</u></b> WRTP-MP offered unemployed clients a variety of trainings, including work-based occupational training as welders, steamfitters, or mechanics.	People who were unemployed	Tested in multiple settings	2010	↑	↑	○	○

Intervention description	Populations and employment barriers <sup>b</sup>	Settings <sup>c</sup>	Year evaluation began <sup>d,e</sup>	Increase earnings	Increase employment	Decrease public benefit receipt <sup>f</sup>	Increase education and training
★ well-supported   ↑ supported   ⊖ mixed support   ✖ not supported   ⊘ insufficient evidence   ○ no evidence							
<b>Workforce Training Academy (WTA) Connect*</b> WTA provided occupational training, academic advising, and employment services to adults with low incomes in order to prepare them for targeted high-demand, high-growth fields.	People with low incomes	Urban only	2012	⊘	⊘	⊘	↑

\*Indicates an intervention that uses elements of a career pathways framework. Many career pathways interventions have a primary service of occupational or sectoral training, though they bundle this training with other services.

Table notes:

<sup>a</sup> To make the results easier to view in this exhibit, the effectiveness ratings represent the highest rating given to the short-term, long-term, or very long-term outcomes for that intervention. For example, if an intervention has a supported effectiveness rating in the long term for earnings, but not in the short term or very long term, we will display the supported icon for the earnings domain.

<sup>b</sup> Populations and employment barriers are included if authors described all intervention participants as having the characteristic or if the characteristic was an eligibility requirement.

<sup>c</sup> The settings indicate whether the study or studies of an intervention were conducted in urban, rural, or multiple settings.

<sup>d</sup> The Pathways Clearinghouse includes research first published in 1990 or later (for unpublished manuscripts, the team uses the date the manuscript was first made available).

<sup>e</sup> The Office of Planning, Research, and Evaluation’s Pathways for Advancing Careers and Education (PACE) evaluation and the Health Profession Opportunity Grants (HPOG) 1.0 and 2.0 evaluations are ongoing. Occupational and sectoral training interventions examined in this Evidence Snapshot are being studied in these evaluations.

<sup>f</sup> The decrease public benefit receipt ratings in this table are from the Pathways Clearinghouse website and combine outcomes related to public benefit receipt and amount. Later in this report, we break out the outcomes by public benefit receipt and public benefit amount. That means the ratings listed in this column might or might not line up with data presented in the text and graphs in this report.

<sup>g</sup> Atlanta Urban League, Center for Employment Training, Pathways to Prosperity, and Wider Opportunities for Women measured effects on earnings but did not include enough information for us to calculate an effect size. Therefore, these interventions are not included in the average calculation or the Exhibit 3 in this report.

<sup>h</sup> Per Scholas and Project Quality Employment Through Skills Training (QUEST) measured effects on public benefit receipt in the very long term but did not include enough information for us to calculate an effect size. Therefore, Per Scholas and Project QUEST are not included in the average calculation or the public benefit graphs in this report.



## How were the interventions implemented?

Understanding how interventions were implemented is crucial to deciding whether an intervention is likely to have a similar effect in another community. The populations, settings, and timing varied for interventions that offered occupational or sectoral training as their primary service (Exhibit 1).

The populations served differed across occupational and sectoral training interventions. Interventions most often served people who were unemployed or had low incomes. Notably, a series of programs implemented in the 1980s focused on serving female single parents of color. Several other programs implemented more recently focused on serving participants with a high school degree or GED.

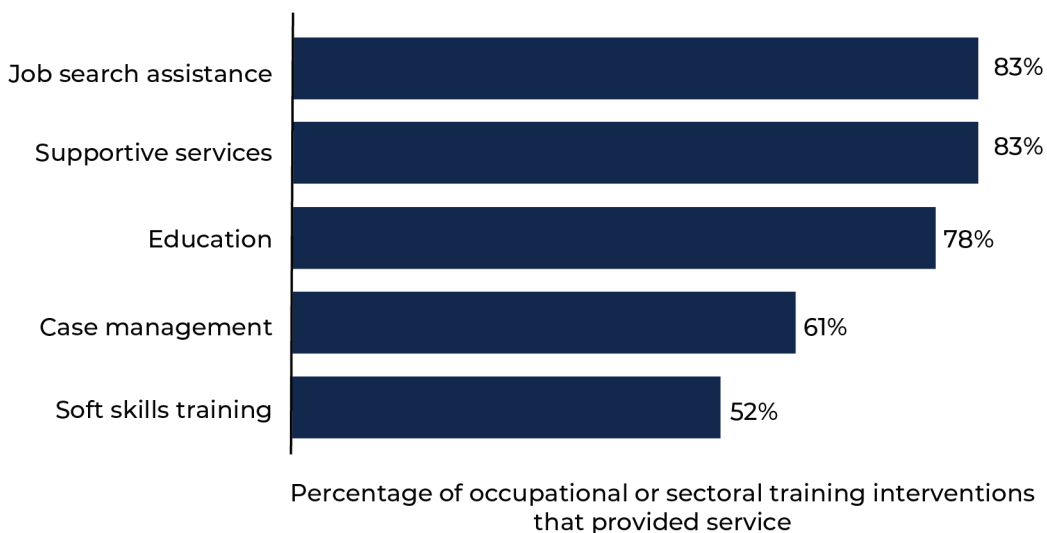
Some interventions were provided by collaborations between multiple partners, including Workforce Investment Boards, community colleges, local employers, labor unions, and community-based organizations. In other cases, a single organization, such as a nonprofit, provided training and support.

Most occupational and sectoral training interventions were implemented in urban settings, and a smaller

number were implemented in mixed or rural settings. Studies of occupational and sectoral training interventions were most common in the 2010s; studies of 17 began in 2010 or after, 3 began in the 2000s, and 3 began in the 1980s. Across interventions, the length of services varied from two weeks to more than four years.

Occupational and sectoral training interventions are often bundled with other policies or services (see Exhibit 2). For example, many occupational and sectoral training interventions also provided work readiness activities such as job search assistance (83 percent), supportive services such as transportation or child care (83 percent), education (78 percent), and case management (61 percent). Many programs also offered soft skills training (53 percent). Eleven of the interventions included in this snapshot used a career pathways framework for providing services. Evaluations of occupational and sectoral training interventions that are ongoing or that released findings after May 2022 are not included in this snapshot. The Pathways Clearinghouse website (<https://pathwaystowork.acf.hhs.gov/>) includes more detail about each intervention.

**Exhibit 2.** Other services offered by occupational and sectoral training programs, out of 23 interventions<sup>12</sup>



## Do occupational and sectoral training interventions increase earnings?



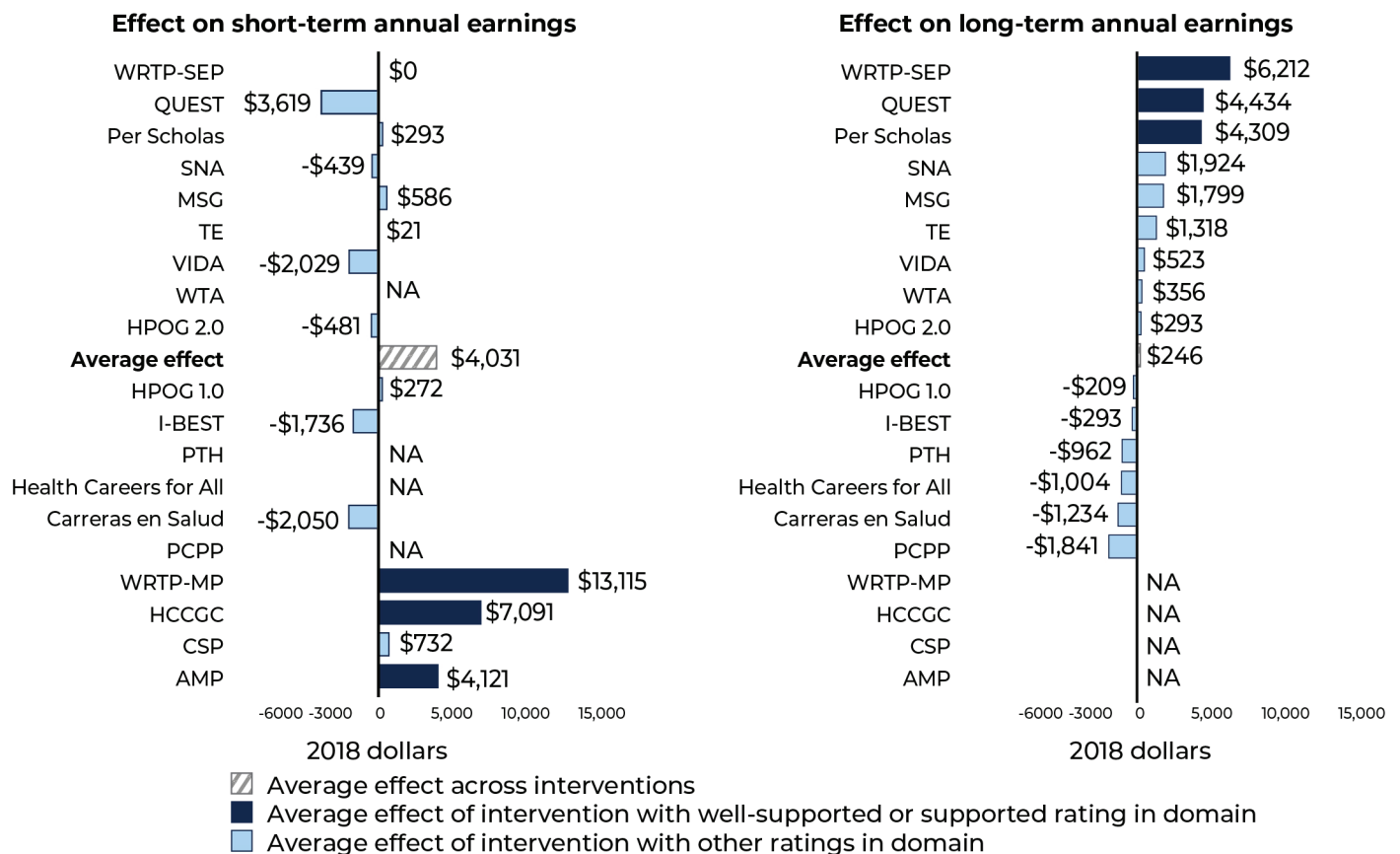
**Short-term annual earnings increased by \$4,031, and long-term annual earnings increased by \$246, on average, across 19 occupational and sectoral training interventions**

for which these outcomes could be calculated (Exhibit 3), compared with comparison group earnings. One intervention, WRTP-MP, heavily influenced the average effect on short-term earnings because it increased short-term earnings by \$13,115, which was approximately \$6,000 per year more than the next largest effect. The median effect on short-term earnings, which is less sensitive to interventions with very high or low effects, was only \$272. Exhibit 3 shows the average effect on earnings for each

intervention. Significant and favorable effects are noted in darker blue.

**Six of the 23 occupational and sectoral training interventions improved annual earnings in the short or long term, compared with comparison group earnings.** Three interventions increased short-term earnings: WRTP-MP, HCCGC, and AMP. These increased short-term earnings by \$13,115, \$7,091, and \$4,121, per year, respectively. Three interventions increased long-term earnings: Wisconsin Regional Training Partnership Sectoral Employment Program (WRTP-SEP), Project QUEST, and Per Scholas, with estimated effects of \$6,212, \$4,434, and \$4,309, respectively.

**Exhibit 3.** Occupational and sectoral interventions, on average, increased short-term and long-term annual earnings




Notes: Interventions are sorted according to the size of the long-term effects because long-term effects better represent sustained increases in economic self-sufficiency. Supported interventions, meaning interventions with research indicating significant and favorable effects, are noted in darker blue.

NA means an intervention did not measure outcomes at the specified time period.

Atlanta Urban League, Center for Employment and Training, Pathways to Prosperity, and Wider Opportunities for Women measured effects on earnings but did not include enough information for us to calculate an effect size. Therefore, these interventions are not included in the average calculation or the earnings graphs in this report.

AMP = Partners for a Competitive Workforce: Advanced Manufacturing Partnership; CSP = Partners for a Competitive Workforce: Construction Sector Partnership; HCCGC = Health Careers Collaborative of Greater Cincinnati; HPOG 1.0 = Health Profession Opportunity Grants 1.0; HPOG 2.0 = Health Profession Opportunity Grants 2.0; I-BEST = Integrated Basic Education and Skills Training; MSG = Madison Strategies Group WorkAdvance Program; PCPP = Patient Care Pathway Program; Per Scholas = Per Scholas Sectoral Employment Program; PTH = Pathways to Healthcare; QUEST = Project Quality Employment Through Skills Training; SNA = St. Nick's Alliance WorkAdvance Program; TE = Towards Employment WorkAdvance Program; VIDa = Valley Initiative for Development and Advancement; WRTP-MP = Wisconsin Regional Training Partnership Manufacturing Pathway; WRTP-SEP = Wisconsin Regional Training Partnership Sectoral Employment Program; WTA = Workforce Training Academy.

## Do occupational and sectoral training interventions increase employment?

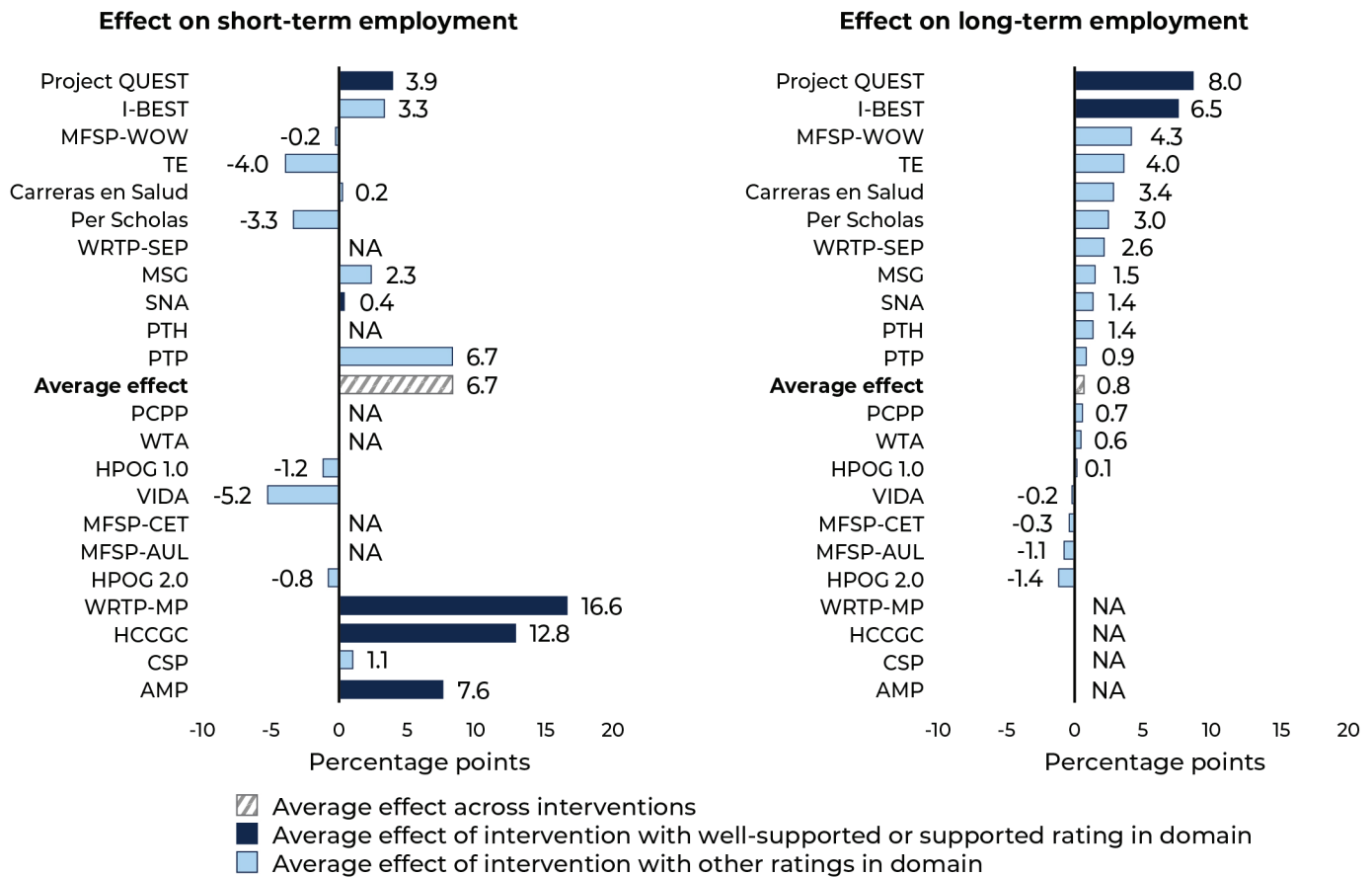
 **Short-term employment increased by 7 percentage points, and long-term employment increased by 1 percentage point, on average**, across the 22 interventions with studies that examined employment outcomes (Exhibit 4), compared with comparison group employment.

**Five occupational and sectoral training interventions increased short-term employment, compared with comparison group employment.** WRTP-MP, HCCGC, AMP, Project QUEST, and St. Nick’s Alliance WorkAdvance

Program increased employment by 16.6, 12.8, 7.6, 3.9, and 0.4 percentage points, respectively.

**Two occupational and sectoral training interventions increased employment in the long term compared with comparison group employment.** Project QUEST and I-BEST increased employment in the long term by 8.0 and 6.5 percentage points, respectively. Across studies of 22 occupational and sectoral training interventions that examined long-term employment, long-term employment increased by an average of 1 percentage point.

**Exhibit 4.** Occupational and sectoral training increased short-term and long-term employment, on average



Notes: Interventions are sorted according to the size of the long-term effects because long-term effects better represent sustained increases in economic self-sufficiency. Supported interventions, meaning interventions with research indicating significant and favorable effects, are noted in darker blue.

NA means an intervention did not measure outcomes at the specified time period.  
 AMP = Partners for a Competitive Workforce: Advanced Manufacturing Partnership; CSP = Partners for a Competitive Workforce: Construction Sector Partnership; HCCGC = Health Careers Collaborative of Greater Cincinnati; HPOG 1.0 = Health Profession Opportunity Grants 1.0; HPOG 2.0 = Health Profession Opportunity Grants 2.0; I-BEST = Integrated Basic Education and Skills Training; MFSP-AUL = Atlanta Urban League Minority Female Single Parent Program; MFSP-CET = Center for Employment Training Minority Female Single Parent Program; MFSP-WOW = Wider Opportunities for Women’s Minority Female Single Parent Program; MSG = Madison Strategies Group WorkAdvance Program; PCPP = Patient Care Pathway Program; Per Scholas = Per Scholas Sectoral Employment Program; PTH = Pathways to Healthcare; PTP = Pathways to Prosperity; QUEST = Project Quality Employment Through Skills Training; SNA = St. Nick’s Alliance WorkAdvance Program; TE = Towards Employment WorkAdvance Program; VIDA = Valley Initiative for Development and Advancement; WRTP-MP = Wisconsin Regional Training Partnership Manufacturing Pathway; WRTP-SEP = Wisconsin Regional Training Partnership Sectoral Employment Program; WTA = Workforce Training Academy.

## Do occupational and sectoral training interventions decrease public benefit receipt?



**The proportion of people receiving public benefits did not change in the short term or long term, on average, across the seven interventions that examined this outcome, relative to the comparison group.**

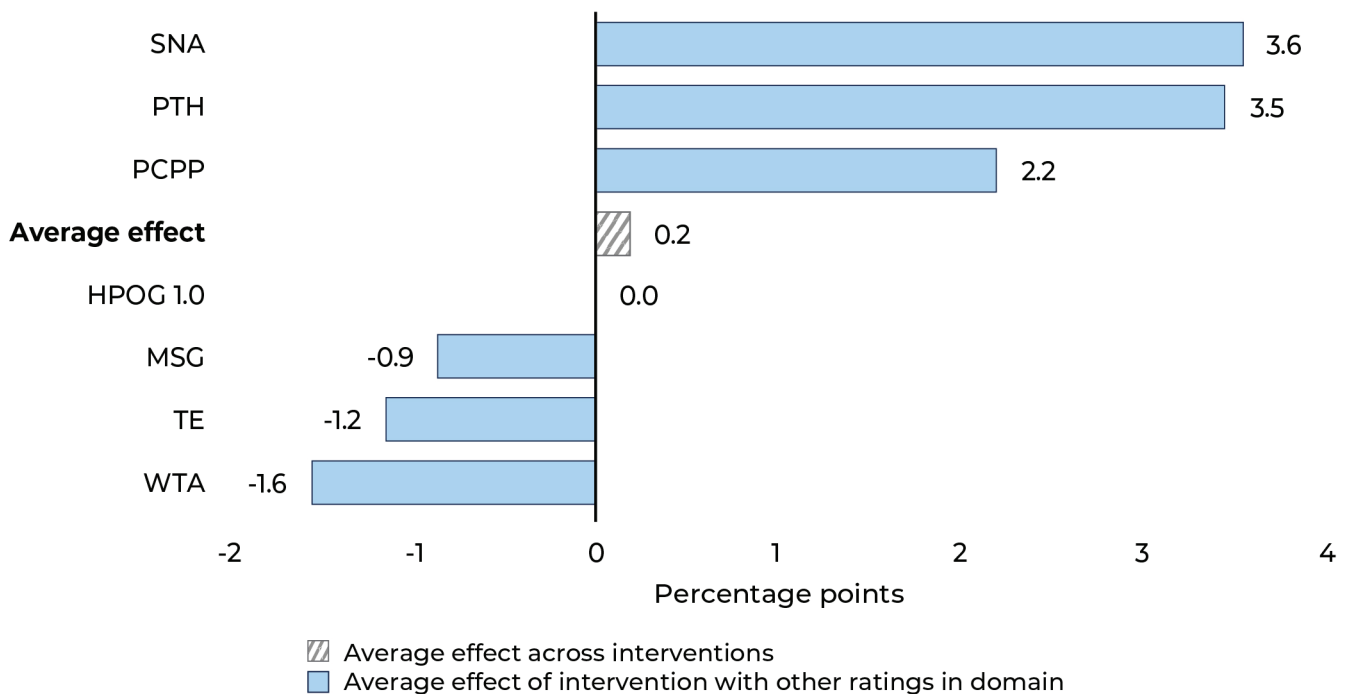
The proportion of people receiving public benefits in the short term decreased by 0.6 percentage points for the only occupational and sectoral training intervention (HPOG 1.0) that examined this outcome, compared with comparison group public benefit receipt. This effect was not statistically significant. Seven interventions examined the proportion of people receiving public benefits in the

long term and found a 0.2 percentage point increase, on average (Exhibit 5).<sup>15</sup> None of the individual interventions that measured the proportion of people receiving public benefits in the long term reported a statistically significant change in this outcome.

**No occupational or sectoral training interventions significantly decreased the amount of annual public benefits received compared with the amount received by the comparison group.** Two interventions examined the amount of public benefits received in the short term (Exhibit 6). One intervention (HPOG 1.0) examined the amount of public benefits received in the long term.

**Exhibit 5.** Occupational and sectoral training interventions did not reduce the proportion of people receiving public benefits in the long term<sup>14</sup>

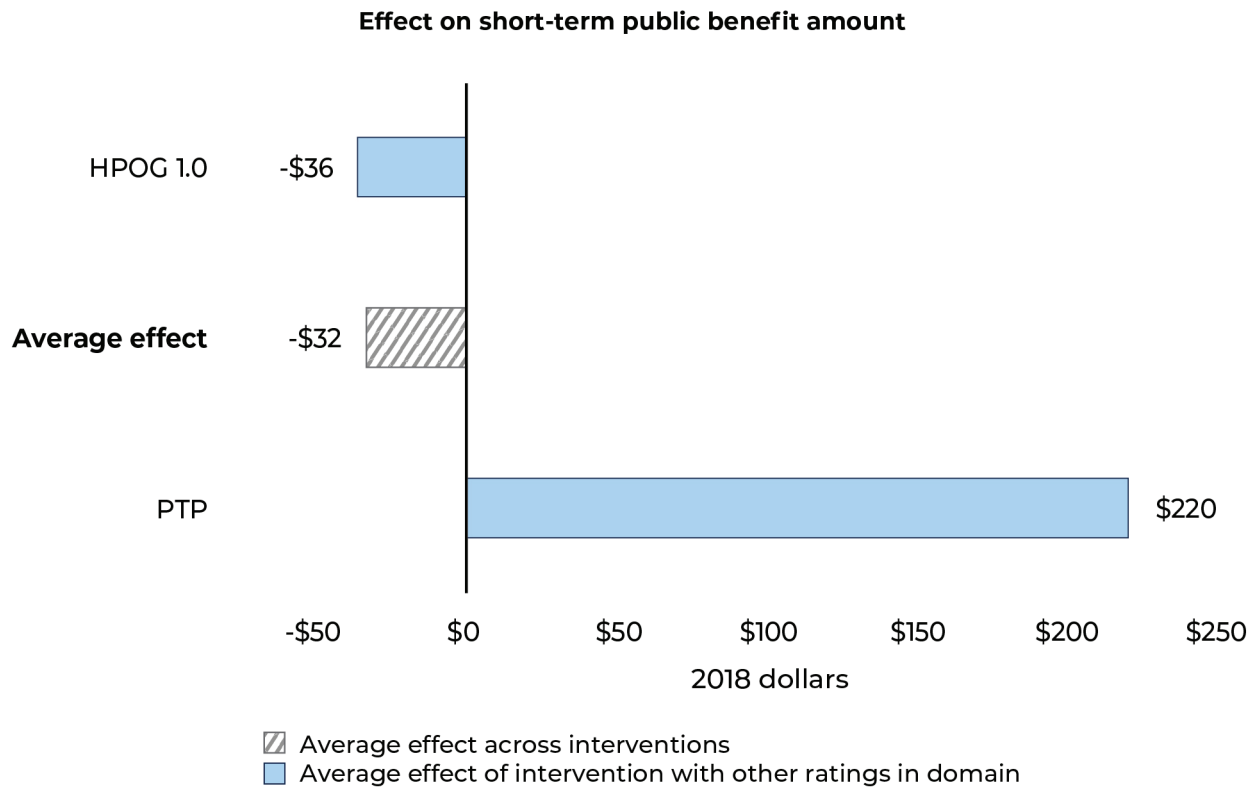
**Effect on long-term public benefit receipt**



Notes: None of the six interventions were supported in this domain.

HPOG 1.0 = Health Profession Opportunity Grants 1.0; MSG = Madison Strategies Group WorkAdvance Program; PCPP = Patient Care Pathway Program; PTH = Pathways to Healthcare; SNA= St. Nick's Alliance WorkAdvance Program; TE = Towards Employment WorkAdvance Program; WTA= Workforce Training Academy.

**Exhibit 6.** Occupational and sectoral training interventions did not significantly reduce the amount of public benefits received in the short term



Notes: Neither of the two interventions were supported in this domain.  
 HPOG 1.0 = Health Profession Opportunity Grants 1.0; PTP= Pathways to Prosperity.



## Do occupational and sectoral training interventions increase education and training attainment?

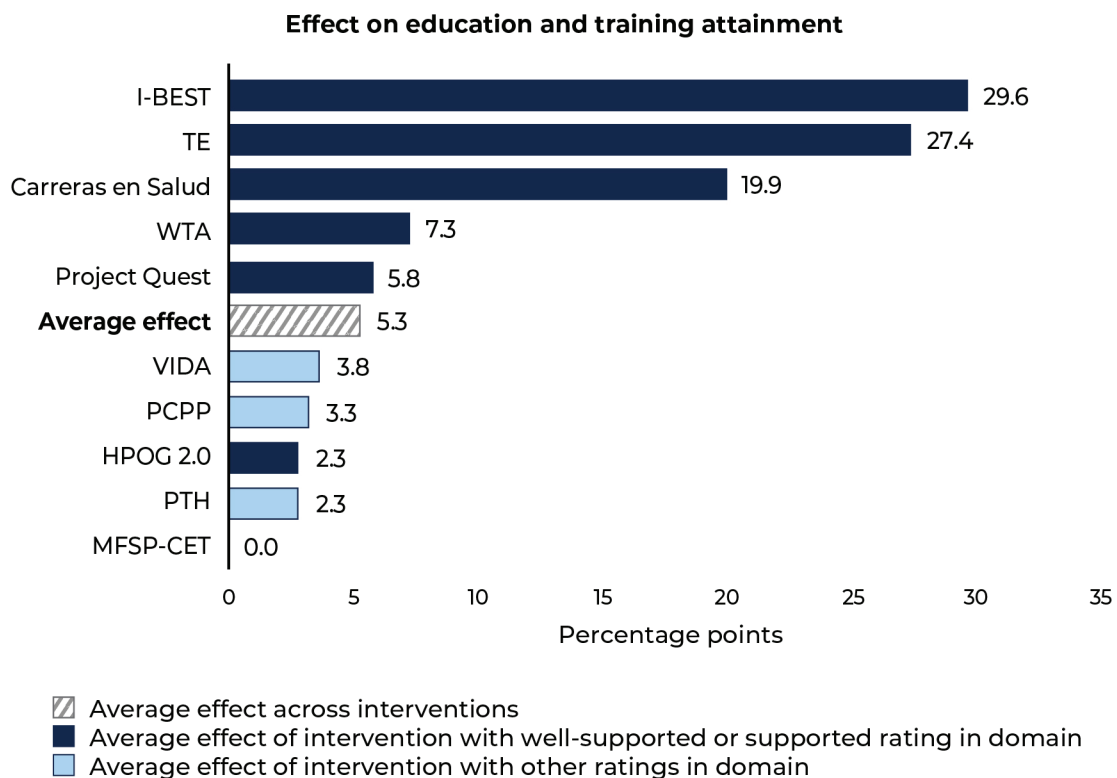


**Education and training attainment increased by 5 percentage points, on average**, across the studies of 10 occupational and sectoral training interventions that measured this outcome (Exhibit 7), compared with comparison group education and training attainment.

**Six occupational and sectoral training interventions increased education and training attainment compared with comparison group education and training attainment.** Exhibit 7 shows the average

effect on education and training attainment for each intervention that measured changes in these outcomes. The six interventions that increased education and training attainment were I-BEST, Towards Employment (TE) WorkAdvance, Carreras en Salud, Workforce Training Academy, Project QUEST, and HPOG 2.0. I-BEST and TE, in particular, had large estimated effects on education and training attainment of more than 25 percentage points each. Occupational and sectoral training programs directly target education and training attainment, which might partly explain these positive effects.

**Exhibit 7.** Occupational and sectoral training interventions, on average, increased clients' education and training attainment



Notes: Supported interventions, meaning interventions with research indicating significant and favorable effects, are noted in darker blue.

HPOG 2.0 = Health Profession Opportunity Grants; I-BEST = Integrated Basic Education and Skills Training; MFSP-CET = Center for Employment Training Minority Female Single Parent Program; PCPP = Patient Care Pathway Program; PTH = Pathways to Healthcare; QUEST = Project Quality Employment Through Skills Training; TE = Towards Employment WorkAdvance; VIDA = Valley Initiative for Development and Advancement; WTA = Workforce Training Academy Connect.

## Which are the most effective occupational and sectoral training interventions?

Five occupational and sectoral training interventions had a positive effect on two or more domains examined by the Pathways Clearinghouse (Exhibit 8). Of these, one intervention, Project QUEST, had positive effects on three

outcome domains: earnings, employment, and education and training. Four other interventions—AMP, I-BEST, HCCGC, and WRTP-MP—had positive effects on two domains examined by the Pathways Clearinghouse.

**Exhibit 8.** Occupational and sectoral training interventions with favorable effects on two or more domains

Intervention	Increase earnings		Increased employment		Decrease public benefit receipt		Increase education and training
	Short-term	Long-term	Short-term	Long-term	Short-term	Long-term	All time periods
<b>Project QUEST</b>		↑	↑	↑			↑
<b>AMP</b>	↑		↑				
<b>HCCGC</b>	↑		↑				
<b>I-BEST</b>			↑				↑
<b>WRTP-MP</b>	↑		↑				

AMP = Partners for a Competitive Workforce: Advanced Manufacturing Partnership; HCCGC = Partners for a Competitive Workforce: Health Careers Collaborative of Greater Cincinnati; I-BEST = Integrated Basic Education and Skills Training; Project QUEST = Project Quality Employment Through Skills Training; WRTP-MP = Wisconsin Regional Training Partnership Manufacturing Pathway.

Project QUEST improved long-term earnings (\$4,434), short-term employment (4 percentage points), long-term

employment (8 percentage points), and education and training (5.8 percentage points) (Exhibit 9).<sup>15</sup>

**Exhibit 9.** Effects in 2018 dollars for Project QUEST in three domains

**Increase earnings**

	<b>Project Quality Employment Through Skills Training (QUEST)</b>
<b>Short-term</b>	⊘ ↓ -\$3,619 per year
<b>Long-term</b>	⬆️ ⬆️ \$4,434 per year
<b>Very long-term</b>	⬆️ ⬆️ \$4,309 per year

**Increase employment**

	<b>Project Quality Employment Through Skills Training (QUEST)</b>
<b>Short-term</b>	⬆️ ⬆️ 4% (in percentage points)
<b>Long-term</b>	⬆️ ⬆️ 8% (in percentage points)
<b>Very long-term</b>	⬆️ ⬆️ 6% (in percentage points)

**Decrease public benefit receipt**

	<b>Project Quality Employment Through Skills Training (QUEST)</b>
<b>Short-term</b>	○
<b>Long-term</b>	○
<b>Very long-term</b>	⊘ -\$110 per year

**Increase education and training**

	<b>Project Quality Employment Through Skills Training (QUEST)</b>
<b>A single rating is assigned across all measurement periods</b>	⬆️ ⬆️ 6% (in percentage points)

★ well-supported ⬆️ supported ⊘ mixed support ⊗ not supported ⊘ insufficient evidence ○ no evidence  
 ⬆️ Direction of the average effect is favorable ↓ Direction of the average effect is unfavorable

Project QUEST provided a comprehensive set of services and resources to advance clients' education and employment goals in health careers. Clients could begin with remedial math and reading instruction before entering full-time health career training tracks, which included registered nursing, licensed vocational nursing, medical coding, and other medical technician roles.

Additional services included the following:

- Financial assistance for training-related expenses
- Counseling services
- Referrals to outside agencies for direct financial assistance
- Job search and placement assistance

Clients received services for an average of 22 months. In comparison, many of the less effective interventions provided services for a shorter period. To participate in Project QUEST, clients were required to have at least a high school diploma or GED and, at minimum, to test at an eighth-grade level in reading and a sixth-grade level on the Test of Adult Basic Education. The QUEST evaluation also focused on applicants to QUEST not currently enrolled in college who were interested in a career in health care. Most other occupational and sectoral training interventions did not have minimum academic or skills eligibility requirements.

## Interventions with the greatest effect size

Another way to assess intervention effectiveness is to examine the greatest effects by domain. Across all occupational and sectoral training interventions:

- WRTP-MP had the largest effect on short-term earnings (\$13,115).
- WRTP-SEP had the largest effect on long-term earnings (\$6,212). Project QUEST and Per Scholas also had large effects on long-term earnings (\$4,434 and \$4,309, respectively).
- Project QUEST had the largest effect on short-term employment and long-term employment (3.9 percentage points and 8.0 percentage points, respectively).
- I-BEST had the largest effect on education and training attainment (29.6 percentage point increase in education and training attainment). TE WorkAdvance also had a large effect on education and training attainment (27.4 percentage points).
- In the public benefit receipt domain, no intervention had consistent evidence of reducing the proportion of participants receiving public benefits or the average amount received.

## Interventions with large effects varied in what services were provided and to whom

Interventions with large effects provided occupational or sectoral training in various formats and durations. Some individual interventions varied greatly in dosage and length for different participants. The trainings provided by WRTP-SEP, for example, ranged from 40 to 160 hours and lasted from 2 to 8 weeks. In the TE intervention, services were delivered in 10 sessions of 6 hours each, and the occupational skills training program lasted 2 to 17 weeks. TE provided follow-up services weekly during the first 30 days of a participant's employment, bimonthly through 90 days, monthly until 180 days, and quarterly thereafter.

The eligibility criteria of interventions with large effects also varied. Clients in WRTP-SEP were required to have a 6th- to 10th-grade reading level, a driver's license (for construction training), and a negative drug screen (for health care training). Per Scholas served students who had a GED or a high school diploma, had been in and out of the labor market, and had tested at or above the 10th-grade level in English and math. The I-BEST intervention, on the other hand, served people who needed additional assistance to meet the skill requirements of college-level occupational training. This included students already

enrolled in the colleges' adult basic education or English-as-a-second-language programs.

The programs with large effects also varied in how they were structured and in who provided services. WRTP-MP and WRTP-SEP were implemented as regional partnerships of employers, unions, workers, government agencies, community organizations, and training providers. In contrast, the I-BEST program was provided

in community colleges across Washington State (the evaluation took place in three community colleges). Per Scholas and TE were provided by community-based nonprofits with ties to many local employers in the sector they focused on for training. Finally, Project QUEST was provided by a workforce agency that was established by two local community organizations to provide Project QUEST's services.

## Needs for future research

More research is needed to determine the full benefits of occupational and sectoral training interventions and under what labor market conditions they improve outcomes. Most occupational and sectoral training interventions are relatively new; 17 of the 23 interventions described began in 2010 or later. This makes it challenging to estimate the effects on clients' long-term outcomes and to understand whether these occupational and sectoral training interventions improved outcomes enough to move workers and families out of poverty. More evidence is also needed on specific intervention components, such as workplace-based versus classroom-based education, to understand what components drive some occupational and sectoral training interventions to be more successful than others. The integrated career pathways service-delivery approach that many of the interventions profiled here used is also one that many training programs have adopted and will be of interest to future research.

Evaluations of occupational and sectoral training interventions that are ongoing or that released findings after May 2022 are not included in this snapshot.

## Endnotes

- <sup>1</sup> Career pathways programs are interventions that combine a series of secondary, postsecondary, and/or adult education and training services that progressively lead to higher credentials and more advanced employment opportunities, with supports designed to help clients progress through these steps.
- <sup>2</sup> An intervention's primary service is the principal service of the intervention. The primary service is (1) a component that a large proportion of intervention group members received and a large proportion of comparison group members did not and (2) the component that was described by the study authors as most integral to the theory of change tested by the study. Interventions might provide multiple services, but only one service is designated as primary.
- <sup>3</sup> A high rating means there is strong evidence that the study findings are solely attributable to the intervention examined. A moderate rating means that readers can be somewhat confident the study findings are attributable to the intervention, but other factors not accounted for in the study might also have contributed to the findings. Some occupational and sectoral training interventions might have been examined only in low-rated studies. These interventions were not included in this Evidence Snapshot. For more information, see the section "How does the Pathways Clearinghouse calculate the average effect of an intervention?"
- <sup>4</sup> Evaluations of occupational and sectoral training interventions that are ongoing or that released findings after May 2022 are not included in this snapshot. The Pathways Clearinghouse continues to review new studies and might produce updated snapshots as additional evidence becomes available.
- <sup>5</sup> Studies of 23 interventions measured earnings in the short or long term; however, four interventions—Atlanta Urban League, Center for Employment and Training, Pathways to Prosperity, and Wider Opportunities for Women—did not include enough information for us to calculate an effect size. Therefore, these interventions are not included in the average calculation or Exhibit 3 in this report.
- <sup>6</sup> Earnings data were reported in various timeframes, including quarterly and annual. The Pathways Clearinghouse converted all the earnings estimates to annual estimates.
- <sup>7</sup> The short-term earnings domain included one outlier (Wisconsin Regional Training Partnership Manufacturing Pathway), which had an effect size nearly twice the size of the second-largest effect. As a result, for this domain, we reported the median as well as mean. For all other outcome domains, we reported mean effects.
- <sup>8</sup> Ten interventions had studies measuring the effect on the proportion of people receiving public benefits or the amount of public benefits received. Studies of eight interventions measured effects on the proportion of people receiving public benefits in the short term, and studies of seven interventions measured effects on the proportion of people receiving public benefits in the long term. Studies of seven interventions measured effects on the amount of public benefits received in the short term, and studies of seven interventions measured effects on the amount of public benefits received in the long term. In contrast to considering public benefits amount and receipt separately, the Pathways Clearinghouse considered public benefit amount and receipt together and assigned them a single, combined effectiveness rating. That means the ratings listed in this report might or might not line up with summary ratings in Exhibit 1 and on the website.
- <sup>9</sup> The Pathways Clearinghouse includes measures of the attainment of educational degrees and other credentials of potential value in the labor market (for example, acquisition of a GED, associate's degree, bachelor's degree, or another certificate or credential). Studies might include other measures of education and training outcomes, such as decompositions of measures over time (for example, earned a GED within one year of service receipt) and measures of credit attainment, but the Pathways Clearinghouse does not include such measures in its review.
- <sup>10</sup> The comparison group varies by study, so in this section, we present the statistics by percentage of studies and not the percentage of interventions.



- <sup>11</sup> The Pathways Clearinghouse considers statistical significance to be support for the existence of an effect of an intervention. The Pathways Clearinghouse considers an effect estimate statistically significant if the p-value of a two-sided hypothesis test of whether the effect is equal to zero is less than 0.05. A p-value is the probability of observing an effect estimate as large or larger than the one observed, if there were no actual effect.
- <sup>12</sup> Specific definitions of these services are available in this glossary: <https://pathwaystowork.acf.hhs.gov/glossary>. Services were included if provided to the intervention group but not the comparison group, or if the services were provided more intensively or differently to the intervention group than the comparison group.
- <sup>13</sup> We report the proportion of people receiving public benefits and the amount of public benefits received separately in these exhibits for graphing purposes. When reporting intervention effectiveness ratings for the public benefit receipt outcome domain, the Pathways Clearinghouse considers these outcomes together based on effect sizes and assigns them a single, combined effectiveness rating.
- <sup>14</sup> The Pathways Clearinghouse adjusted the various estimated effects to account for inflation and other changes over time. This adjustment accounts for changes in the maximum amount of public benefits available because of the Great Recession and other policy changes.
- <sup>15</sup> Like several other interventions featured in this snapshot, Project QUEST also used elements of a career pathways framework.

## Goals of the Pathways Clearinghouse

The Pathways Clearinghouse systematically evaluates and summarizes the evidence on the effectiveness of interventions that aim to improve employment outcomes, reduce employment challenges, and support self-sufficiency for populations with low incomes. It has several goals:

- Conduct a transparent, comprehensive search to identify studies of employment and training interventions designed to improve employment, increase earnings, support self-sufficiency, or advance education and training for populations who have low incomes.
- Rate the quality of those studies to assess the strength of the evidence they provide on the different interventions.
- Determine the evidence of effectiveness for those interventions.
- Share the results, as well as other Clearinghouse products, on a user-friendly website to help state and local TANF administrators, policymakers, researchers, and the general public make sense of the results and better understand how this evidence might apply to questions and contexts that matter to them.
- Synthesize the overall state of evidence in the field by creating and disseminating a variety of reports, briefs, and other products.

For more information, see <https://pathwaystowork.acf.hhs.gov>.

### June 2024

**OPRE report** 2024-129

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**Suggested citation:** Hartog, Jacob, Erin Welch, and Jillian Stein (2024). Evidence Snapshot: Occupational and sectoral training, OPRE Report #2024-129, Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

This brief was funded by the Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, under contract number HHSP2332015000351/HHSP23337034T.

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

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