Effects of Sector-Focused Training After 10 Years

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BUILDING KNOWLEDGE TO IMPROVE SOCIAL POLICY

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OVERVIEW

Up until the early 2010s, most research on employment programs that were designed for people with low incomes showed a similar pattern: The programs helped people get jobs, but those jobs did not pay well and people did not increase their earnings over time. Studies of sector-based training programs—which go beyond traditional training programs by preparing job seekers for high-quality employment in industries with strong local demand and advancement opportunities—are breaking this pattern. There is growing research showing that these programs can increase credential receipt, employment in the sector they target, and earnings. With these findings, the workforce development field has increasingly adopted the use of these sector programs, and federal workforce legislation—including the Workforce Innovation and Opportunity Act of 2014—often now requires their use.

There is more to be learned, however, about whether and how these programs increase earnings and career progression over time. This report presents long-term impacts from a randomized controlled trial of WorkAdvance, a sectoral and advancement-focused workforce training model that was implemented by four nonprofit providers. Launched in 2011, WorkAdvance provides short-term training for specific sectors in which there is strong local demand and opportunity for career advancement. Previous reports showed that the WorkAdvance programs produced some meaningful short- and medium-term gains in employment, earnings, and related outcomes.

The 10-year findings shown in this report address a more ambitious question: Can short-term sector programs generate earnings gains a full decade later? To answer this question, the analysis focuses on two prespecified confirmatory outcomes in Year 10: (1) total annual earnings and (2) the proportion of individuals earning $45,000 or more, both drawn from administrative data in the National Directory of New Hires. Because the study followed multiple cohorts, Year 10 covers 2021 through 2023 and coincides with the COVID-19 pandemic, an unprecedented economic shock that impacted sectors in different ways and no doubt impacted the economic outcomes of the people in the study.

Findings

- In Year 10, the WorkAdvance program at St. Nicks Alliance increased average earnings by 32 percent and increased the proportion of people who earned $45,000 or more by 7 percentage points.
- The other three WorkAdvance programs did not have an impact on either confirmatory outcome in Year 10.

Overall, the findings from this 10-year evaluation suggest that sector programs are a promising way to help individuals increase their earnings and advance in their careers. All four programs increased earnings at some point—the Towards Employment and Madison Strategies Group programs in Year 2, the Per Scholas program in Years 2 to 5 and 7 to 8, and the St. Nicks Alliance program in Years 8 to 10—leaving people better off overall than they would have been without the programs.

The differences in long-term earnings between programs underscore that sector programs like WorkAdvance can produce sustained economic gains, but they are likely sensitive to shifting economic conditions. These gains may not persist without additional sector-specific approaches—such as targeted reengagement or upskilling years after initial participation—particularly in fast-evolving industries. Even as the WorkAdvance evaluation concludes, ongoing research—including research stemming directly from this study—on how to refine sector programs and maximize their potential continues to build evidence on how these programs can foster lasting economic mobility and resilience.

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ACKNOWLEDGMENTS

The WorkAdvance long-term follow-up analysis and this report are supported by Arnold Ventures. MDRC also received support from the U.S. Department of Health and Human Services to acquire the National Directory of New Hires (NDNH) data. WorkAdvance was originally implemented as part of the 2010 Social Innovation Fund grant to the Mayor's Fund to Advance New York City and the Mayor's Office for Economic Opportunity (NYC Opportunity). A previous extended follow-up analysis was supported by funds provided by Robin Hood.

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The Authors

INTRODUCTION

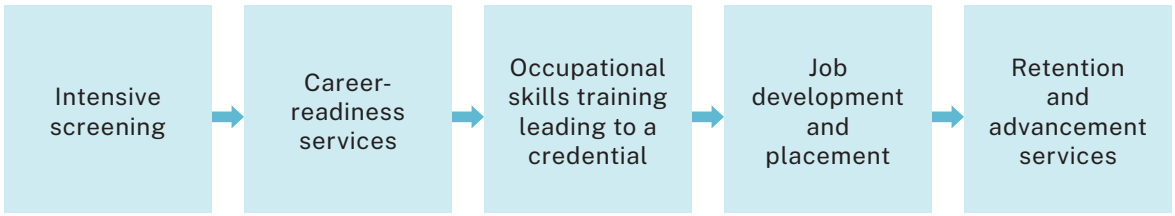
Sector programs — programs that train people for high-quality jobs in industries and occupations where there is strong local demand and opportunity for career advancement — have become popular in recent years. There is evidence that sector programs can increase participants' likelihood of receiving training; earning credentials; getting jobs in a specific sector; and, in some cases, earning more.[1] Yet there is less evidence on whether they can increase participants' earnings in the long term — meaning seven or more years after they enter a sector program — and help people advance their careers.[2] There is also limited evidence on the long-term career paths of the people who attend sector programs.

This limited evidence base leaves open questions about the effectiveness of sector programs. Do they set people on a career path where they can advance? Do sector programs help participants get better jobs initially (after they complete training), but not help them obtain subsequent jobs? Do participants continue working in the sector in which they were trained, or do they move to other sectors? Do participants return to the sector program or go to another provider to get higher-level certifications or credentials? Do the findings suggest a need for programs to offer advancement or postemployment services to participants?

This report provides insight into these questions using findings from a 10-year follow-up analysis of WorkAdvance, a workforce development model that provides support services, career readiness and occupational skills training, job placement support, and postemployment services to adults looking to enter and advance in the labor market.[3] The model and its components explicitly focus on both a target sector — based on the idea that services and skill development must be linked to the needs of employers in a given sector — and career advancement, based on the idea that obtaining an initial job is not enough to promote ongoing wage increases and that it is crucial to know how to advance. (See Figure 1.) Four nonprofit providers — Per Scholas, St. Nicks Alliance, Madison Strategies Group, and Towards Employment — implemented the WorkAdvance model in mid-2011. As part of MDRC's WorkAdvance study, each of the programs was evaluated using a randomized controlled trial design.[4]

1. The first rigorous evidence on sector programs came from the Sectoral Employment Impact Study, which found promising evidence for three mature sector programs — see Maguire et al. (2010). Since then, several additional studies have shown that sector programs can increase participants' employment rates and earnings. See Fein and Dastrop (2022) and Roder and Elliot (2021), for example.
2. One notable exception is the evaluation of Project QUEST's health care training program, which was found to have increased participants' earnings in Years 4, 5, 6, 9, 10, and 11. See Roder and Elliot (2021).
3. The WorkAdvance model was developed by the Mayor's Fund to Advance New York City and the Mayor's Office for Economic Opportunity (NYC Opportunity) in collaboration with MDRC.
4. In a randomized controlled trial design, eligible people are assigned at random into one of two research groups: a program group, in which people have the opportunity to enroll in program services, or a control group, in which people cannot enroll but can seek similar services in their communities. The research team then compares the outcomes of the two groups.

Figure 1. WorkAdvance Model Components



An earlier WorkAdvance follow-up study looked at participants' outcomes in the seventh year after they entered the programs (referred to as Year 7) and showed that effects on participants' earnings varied by program.[5] This report extends the follow-up period by three years and presents outcomes from Years 8 through 10, which overlapped with the onset of the COVID-19 pandemic and the subsequent recovery period. The report draws on National Directory of New Hires (NDNH) earnings data, Internal Revenue Service (IRS) tax data, and interviews with alumni of the Per Scholas and St. Nicks Alliance WorkAdvance programs.[6]

The findings in this report show that the employment and earnings effects of WorkAdvance still vary by program. Based on the NDNH data, only one program — St. Nicks Alliance — increased average earnings and the percentage of people who earned at least $45,000 in Year 10 (the study's two main indicators of success, or "confirmatory outcomes" in this analysis).[7] The earnings effects at St. Nicks Alliance emerged for the first time in Year 8, though the positive trend started in Year 7. The Per Scholas WorkAdvance program had strong earnings effects in Years 7 and 8, but its effects faded and are no longer statistically significant by Year 9. The Madison Strategies Group and Towards Employment programs, for the most part, did not increase earnings in Years 8 to 10.

Overall, the findings from this decade-long evaluation of the WorkAdvance model suggest that sector programs remain a promising way to help individuals improve their employment prospects. All four WorkAdvance programs increased annual earnings at some point during the 10-year period and improved at least some other measures (like job quality and life satisfaction). The findings — particularly the lack of effects (or "impacts") in some periods — also suggest that there is still more to learn about how sector programs can help people achieve sustained career and earnings growth.

5. Kanengiser and Schaberg (2022).

6. The decision to interview participants from the Per Scholas WorkAdvance program was made before the research team had a chance to analyze the findings presented in this report. Through Year 7, the Per Scholas program had the strongest and most consistent effects on earnings. After seeing the earnings effects in Years 8, 9, and 10, the research team decided to interview participants from the St. Nicks Alliance WorkAdvance program with the intention of trying to gain insight into the career paths of people who went through the program.

7. The research team selected the confirmatory outcomes before conducting this analysis. The confirmatory outcomes are used to assess the overall effectiveness of the WorkAdvance programs in Year 10. See the study's analysis plan for more information: https://osf.io/ndyja.

BACKGROUND AND PREVIOUS FINDINGS

The WorkAdvance model drew heavily on findings in two areas. First, it drew on research on sector strategies. The Sectoral Employment Impact Study, the first rigorous test of sector programs, showed two-year earnings gains for people in three mature sector programs and strongly influenced the design of the WorkAdvance model.[8] Second, the model drew on research on job-retention and career-advancement strategies. WorkAdvance is based on the hypothesis that concrete postemployment support — such as coaching tied to specific career paths and active outreach to former participants to ensure reemployment services are provided quickly when a participant loses a job — may help individuals not only maintain their employment but also advance within their sector and continue to increase their earnings.

Between June 2011 and June 2013, a total of 2,564 individuals enrolled in the WorkAdvance study and were assigned at random into one of two research groups — a WorkAdvance (or program) group, in which people were offered the WorkAdvance services, and a control group, in which people were not offered the WorkAdvance services but could seek out other services in their communities. The research team tracked the training- and employment-related outcomes of the people in both groups over time and compared their outcomes to estimate the impacts of the programs.[9]

The WorkAdvance programs targeted adults who were unemployed or earning low wages (less than $15 per hour), with family incomes below 200 percent of the federal poverty level. The people in the study were looking to enter or advance in the labor market by attending a training program and gaining new skills in a particular sector. The extensive, up-front screening process used by the WorkAdvance programs resulted in the programs enrolling highly motivated people. Table 1 shows information about the individuals who enrolled in the study.

Several previous reports have presented findings from the WorkAdvance study's implementation, participation, benefit-cost, and interim economic impact analyses (through Year 7). The analyses were done at the program level because of the variation across the four WorkAdvance providers (described more below). This section summarizes the earlier findings, with an emphasis on findings that informed the Year 10 analysis.

Implementation and Participation Findings

The WorkAdvance providers came into the evaluation with a variety of backgrounds, and their levels of experience running sector programs strongly influenced their implementation of the WorkAdvance model. Translating the WorkAdvance model into concrete services took

8. Maguire et al. (2010).

9. In randomized controlled trial evaluations, the impacts (that is, the differences between the two groups that are statistically significant) can be attributed to the program, since the program and control groups are statistically alike, on average, when they enter the study and the only difference between them is that one group was offered program services and the other was not.

Table 1. WorkAdvance Providers and Baseline Sample Composition

	Per Scholas	St. Nicks Alliance	Madison Strategies Group	Towards Employment
Provider characteristics				
Location	Bronx, NY	Brooklyn, NY	Tulsa, OK	Northeast Ohio
Target sector	Information technology	Environmental remediation	Transportation, manufacturing	Health care, manufacturing
Approach[a]	Training first	Training first	Training and placement first until fall 2012; then mostly training first	Training and placement first until fall 2012; then mostly training first
Sample composition				
Average age (years)	31	35	35	35
Female (%)	13	15	16	59
Postsecondary degree (%)	30	17	10	10
Currently employed (%)	13	11	27	27
Ever employed (%)	96	98	99	97
Race/ethnicity (%)				
Hispanic, Latino, or Spanish	36	23	6	5
Black, non-Hispanic	44	63	28	71
White, non-Hispanic	5	7	39	18
Asian/Pacific Islander, non-Hispanic	9	3	3	1
American Indian, non-Hispanic	1	2	21	2
Other[b]	2	3	3	2
Received food stamps/SNAP (%)	17	42	35	55
Previously convicted of a crime (%)	10	20	40	25

SOURCES: Information from documentation that was supplied by providers and MDRC calculations from the WorkAdvance baseline information form.

NOTES: SNAP = Supplemental Nutrition Assistance Program.

[a]In the training-first approach, participants attended occupational skills training before looking for a job. In the placement-first approach, participants skipped occupational skills training and sought immediate employment.

[b]"Other" comprises sample members who identified "other" or "multiracial" as their race in the baseline information form.

time and substantial technical assistance. By the end of the study's operational phase, all the providers had successfully implemented the model.[10]

WorkAdvance led to large increases in participation in services related to the model's components — career-readiness services, occupational skills training, job search services, and postemployment services — at all four programs. Of note, WorkAdvance increased training completion in the target sector (by 31 percentage points or more) and credential attainment in the target sector (by 25 percentage points or more) compared with what would have happened in the absence of the program.[11] These large participation increases allow for a good test of the model's effectiveness at improving economic outcomes beyond what would have happened without the program.

Interim Economic Impact and Benefit-Cost Findings

The study's initial impact analysis — which looked at outcomes roughly two years after people entered the study — showed that all four WorkAdvance programs increased employment in the sector they targeted.[12] This increase in sector employment is a necessary but not sufficient condition for the programs to increase earnings and career advancement. The evidence for those outcomes is mixed.

A longer-term study, which most recently looked at outcomes through Year 7, focused on two measures: average yearly earnings and the percentage of participants who earned $40,000 or more, both measured in Year 7. The findings showed that, in three of the four programs, the WorkAdvance model led to an increase in at least one of those measures. The Per Scholas program was the only one to have a positive impact on both measures, while the programs at St. Nicks Alliance and Towards Employment increased the percentage of individuals with high earnings. Overall, the pattern of economic impacts to date suggests that while the WorkAdvance model can increase earnings, there is still room for improvement in how the model is implemented.[13]

The findings from the benefit-cost analysis were positive from the perspectives of WorkAdvance participants, the government, and society as a whole at all four programs over a 5- to 10-year follow-up period. For example, people in the WorkAdvance group made substantial financial gains of $5,500 to $15,500 during the follow-up period, even though they paid higher taxes and received less in government transfer benefits (like food stamps or Supplemental Nutrition Assistance Program and housing assistance).[14]

10. Tessler et al. (2014).
11. Hendra et al. (2016).
12. Hendra et al. (2016).
13. Kanengiser and Schaberg (2022).
14. Schaberg and Greenberg (2020).

HOW WORKADVANCE MIGHT INCREASE PARTICIPANTS' EARNINGS AFTER 10 YEARS

The theory behind WorkAdvance is that strategic, demand-guided upgrades in educational and employment skills — and experience working in high-demand sectors — will lead to advancement in the labor market. In the first couple years after participants entered the WorkAdvance programs, the research team expected that they would attend training classes, obtain credentials, begin a job search, and find a job in the sector in which they were trained. These activities were expected to result in increased overall employment and, more importantly, increased employment in the target sectors (as the WorkAdvance programs helped connect people to target-sector jobs that would help jump-start their careers).

Beyond the second year, the WorkAdvance model's success is better assessed by measures of earnings. If the programs moved participants into jobs in their target sectors — which were supposed to be sectors that paid higher wages and had opportunities for advancement — participants would be able to increase their earnings at a higher (or faster) rate than they could have on their own.

Impacts on earnings beyond the second year could also suggest that the WorkAdvance model provides valuable services that are not found in other training programs. For example, the model's career advancement focus may have better prepared participants to determine their next step (such as the next job in their career track), what they needed to do to advance (for example, position themselves for a promotion at their current employer or look for a higher-level job elsewhere) and how to do it. Additionally, WorkAdvance offered training on how to act professionally, interview for a job, and build positive relationships in the workplace. This training could benefit participants beyond their initial job placement. Participants completed training sessions with a network of peers who were also looking for jobs in the same sector, giving them connections to draw on to obtain employment. These factors could contribute to increased long-term earnings.

However, it is also possible that the effects of WorkAdvance might lessen after a few years. Skills that were in high demand 10 years ago may be less relevant today, especially given changes in technology and the growth of artificial intelligence. Without additional training, some participants may not have advanced further in their careers. Additionally, given that the WorkAdvance programs screened for highly motivated candidates who wanted to advance, people who ended up in the control group may have found similar services at other training providers and developed similar careers. In that case, early effects on employment rates or earnings would fade as control group participants obtained jobs and advanced.

LONG-TERM ECONOMIC IMPACTS, BY PROGRAM

Since the last report, the research team collected and analyzed additional administrative data on employment and earnings from two sources: the NDNH database and IRS tax records held by the U.S. Census Bureau.

NDNH data, the main source of data for the WorkAdvance study, contains information on people's earnings from jobs covered by the unemployment insurance system in every state.[15] The data do not include earnings from self-employment, independent contract work, and informal employment.[16] The outcomes in this report — for Years 8, 9, and 10 — span the COVID-19 pandemic and recovery periods. (For additional context, this report's tables also show outcomes from Year 7, which were included in the prior report.) As Appendix Figure A.1 shows, the pandemic overlapped with participants' seventh, eighth, or ninth year in the program, depending on when they entered the study.

IRS tax records, a supplemental source of data for the study, contain information on people's W-2 earnings as reported in their tax filings. The data also show whether they reported earnings in a Schedule C form, which indicates they had earnings from self-employment. (The amount of earnings that they reported is not available.) The W-2 earnings outcomes cover Years 7, 8, and 9, while the Schedule C filings cover the 10 years following study enrollment, split into two periods.

This analysis has two prespecified, confirmatory outcome measures that are used to assess the overall success of the WorkAdvance programs in Year 10: average annual earnings and percentage of participants who earned $45,000 or more, both measured using NDNH data. Statistically significant effects on the confirmatory outcomes represent the highest level of evidence of the success of the programs in Year 10.

All other outcomes are exploratory, meaning they are not the main indicators of success in Year 10 but they still provide useful evidence. One exploratory outcome of note — which the research team added after seeing the Year 10 results — is cumulative earnings across the 10-year follow-up period.[17] This outcome is useful for assessing the overall effectiveness of the WorkAdvance programs. See Box 1 and Appendix B for more information about this outcome.

15. More information on NDNH data can be found in Administration for Children and Families (2024).

16. As of May 2017, about 7 percent of workers were estimated to be independent contractors nationally (U.S. Bureau of Labor Statistics, 2018). A more recent estimate suggests that up to 15 percent of workers may be independent contractors (Abraham, Hershbein, Houseman, and Truesdale, 2024). Some industries may have higher rates of independent contractors than others.

17. The research team did not have access to the same earnings data source for all 10 years and did not have access to data in some intermediate quarters, so several assumptions were made in the creation of this outcome and statistical significance tests were not conducted. See Appendix B for a discussion of the methodology used to create this outcome.

BOX 1

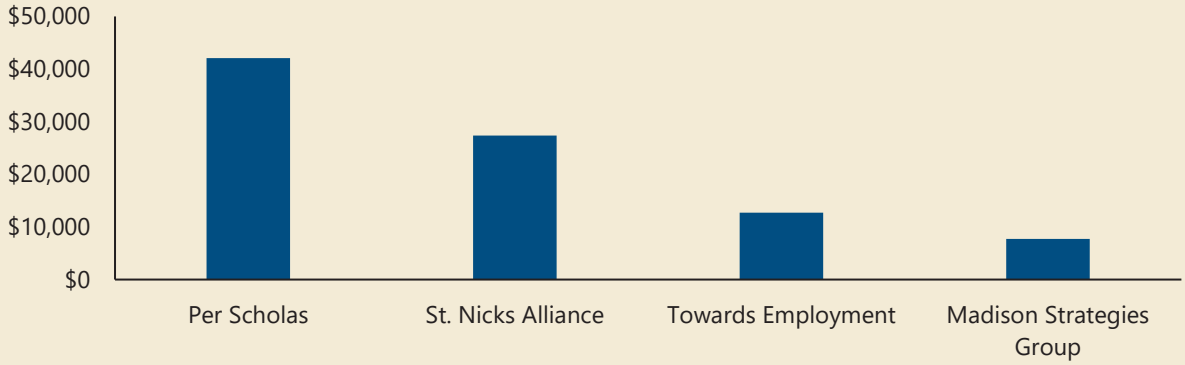
Did the WorkAdvance Programs Increase Earnings Over the Full 10-Year Study Period?

The findings in this report show that not all the WorkAdvance programs increased earnings in Years 8 through 10. However, all of the programs have increased earnings at some point during the 10 years in which participants' outcomes were tracked. This finding leads to the question of whether the WorkAdvance programs left people better off over the course of the 10-year period. To answer this question, the research team conducted an exploratory analysis of the differences in cumulative average earnings—the total sum of earnings that individuals made over the 10 years that were covered in the WorkAdvance study—between the WorkAdvance and control groups. Statistical significance tests were not conducted for these differences because the research team did not have access to the same earnings data source for all 10 years. Therefore, it is not certain that any differences are due to the WorkAdvance programs. (For a discussion of the methodology used to create this outcome, see Appendix B.)

The analysis shows that WorkAdvance participants at all four programs had higher average cumulative earnings than the control group participants for the 10 years after they entered the study. The cumulative earnings of people in the WorkAdvance group were about $42,000 (or 16 percent) higher at Per Scholas, $27,000 (or 13 percent) higher at St. Nicks Alliance, $13,000 (or 8 percent) higher at Towards Employment, and $8,000 (or 4 percent) higher at Madison Strategies Group than the cumulative earnings of people in the control group at each program. (See the figure below.)

These differences mean that, on average, WorkAdvance participants had more money to pay rent, pursue further education, support themselves and their families, or grow their savings. Though cumulative earnings are not a confirmatory outcome in this report, this finding tells an important story about the overall impact of the WorkAdvance programs.

Difference in 10-Year Cumulative Earnings Between the WorkAdvance and Control Groups, by Program



SOURCES: MDRC calculations using state unemployment insurance wage data and National Directory of New Hires data.

Finally, the NDNH and IRS data do not show the sector that someone worked in, making it difficult to assess whether WorkAdvance participants advanced in the target sectors. Therefore, it is not possible to fully attribute changes in earnings and employment rates to industry circumstances. An analysis based on survey data from Year 2 showed that about 54 percent of people in the WorkAdvance group and 31 percent of people in the control group reported working in the target sector, a statistically significant difference between the groups.[18] It is unclear whether those percentages have changed in the roughly eight years since that survey. This section offers theories that could explain the study's findings, but without an understanding of the jobs that participants worked in, it is difficult to assess the role the sector played in the outcomes.

Per Scholas

Per Scholas, a nonprofit organization headquartered in the Bronx, New York, provides information technology (IT) training and employment services.[19] At the start of the study, the organization had experience operating a sector program (which it had been doing since 1998) and participating in a randomized controlled trial. (It was part of the Sectoral Employment Impact Study.)[20] This experience gave Per Scholas an initial head start over the other providers in the study. To align its program with the WorkAdvance model, Per Scholas had to explicitly deliver advancement messaging and support to participants and begin offering postemployment services.

Employment and Earnings Impacts

As seen in Table 2, the Per Scholas WorkAdvance program did not have an effect on either confirmatory outcome in Year 10, which differs from earlier findings. On average, people in the WorkAdvance group earned $1,971 more than people in the control group in Year 10 and were 3 percentage points more likely to earn $45,000 or more. These differences are not statistically significant.

The Per Scholas WorkAdvance program produced a statistically significant effect on earnings in Year 8, with people in the WorkAdvance group earning $5,466 more, on average, than people in the control group. However, the program's earnings impact decreased by more than 50 percent between Years 8 and 10 and is no longer statistically significant starting in Year 9. (Findings based on W-2 earnings in the IRS data show a similar pattern; see Appendix Table A.1). There was no impact on employment in any year, as expected. The Per Scholas program led to a reduction in the receipt of UI benefits in Year 9, however, suggesting that

18. Hendra et al. (2016).

19. During the study period, Per Scholas offered training that led to the attainment of the CompTIA A+ and Network+ certifications. These certifications helped prepare participants for jobs as help-desk technicians and IT field technicians. See Schaberg and Ibok (2022). In this report, employment in IT means an IT position in any sector. For example, employment in IT includes both jobs in tech-related companies and IT positions in health care, finance, education, or other industries.

20. See Maguire et al. (2010).

Table 2. Per Scholas Impacts on Employment and Earnings, Years 7 to 10

Outcome	WorkAdvance Group	Control Group	Difference (Impact)	P-Value
Total earnings ($)				
Year 7	40,928	35,806	5,123 **	0.027
Year 8	41,039	35,573	5,466 **	0.030
Year 9	41,561	39,075	2,486	0.367
Year 10	44,765	42,794	1,971	0.489
Earned $45,000 or more (%)				
Year 7	42.2	35.4	6.8 *	0.069
Year 8	41.7	37.7	3.9	0.295
Year 9	44.9	41.7	3.2	0.405
Year 10	48.6	45.3	3.4	0.374
Ever worked (%)				
Year 7	87.2	84.1	3.1	0.248
Year 8	83.2	82.3	0.8	0.777
Year 9	80.3	80.9	-0.6	0.856
Year 10	79.9	81.9	-2.0	0.520
Sample size (total = 690)	349	341		

SOURCE: MDRC calculations using National Directory of New Hires data.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

In this analysis, the two confirmatory outcomes are total earnings and the percentage of people earning $45,000 or more, both in Year 10.

people in the control group were more likely to have lost a job at some point that year (shown in Appendix Table A.2).

These earnings findings are a change from prior findings. While it is unclear what led to this change, it is possible that after eight years, the advantage of training and job placement may no longer be as relevant and impactful. This could be particularly true for individuals working in a quickly evolving sector like IT, where regular upskilling may be necessary.[21] People in the control group have had time to grow their careers and may have caught up

21. Other research supports the idea that rapid technological change in STEM fields reduces STEM graduates' initial wage gains, as many of the skills they learned in school become obsolete over time. See Deming and Noray (2020).

with WorkAdvance group members. It is unclear why they might have caught up in Year 9, however, as opposed to an earlier or later year. A long-term follow-up study of another sector program showed earnings impacts in Years 9, 10, and 11 but not in Years 7 or 8, suggesting it is possible that the effects of sector programs may fade and reappear.[22]

It is also possible that the earnings impacts decreased because of the dramatic changes in the labor market during the period that the study captured (from 2017 to 2023). The control group saw a large increase in average earnings from Year 8 to Year 10, while earnings for the WorkAdvance group remained relatively stagnant. Such a difference in earnings gains suggests that external economic factors may be at play. Though the IT sector did not suffer as badly as other industries early in the COVID-19 pandemic, it saw an increase in layoffs starting in 2022.[23] Consistent with this trend, the WorkAdvance group's employment rate was 6 percentage points lower than the control group's in 2023 (not shown).[24] Importantly, the NDNH data do not include information on whether people were working IT jobs, so it is unclear how many people in both research groups had IT jobs and may have been affected. Still, the turbulent IT job market could have weakened the advantage that WorkAdvance participants had in earlier years.

Finally, it is possible that WorkAdvance and control group members had different types of employment — for example, working for an employer or being self-employed — and that may have changed over time. Independent contract workers and self-employed workers are not covered by the NDNH data, so any earnings from that type of employment are not captured here. However, findings from the IRS data show that similar rates of people in the WorkAdvance and control groups reported having Schedule C earnings. (Individuals who earn income from self-employment file a Schedule C form to report income or loss from their business.) These rates increased from between 10 and 12 percent in the first six years after study enrollment to between 12 and 14 percent in Years 7 to 10 (Appendix Table A.1), suggesting that more people were self-employed (as either their only employment or in addition to other employment). This finding aligns with trends in the tech industry, in which the share of temporary or contract roles (rather than salaried, full-time roles) has increased.[25]

The earnings impacts that the Per Scholas program had in Years 2 through 5 and in Year 7 still remain, providing evidence that the program left people better off, overall, over the full 10-year period. This finding is reinforced by an exploratory analysis showing that the cumulative earnings for people in the WorkAdvance group at Per Scholas were about $42,000 higher than for people in the control group.

22. Roder and Elliot (2021).

23. Crunchbase (2024).

24. There was little difference in earnings that year as well. See Appendix Figure A.2.

25. See, for example, Anders (2022).

Participant Trajectories

To learn more about Per Scholas graduates' educational and employment trajectories after they completed the program and to get a better understanding of the decline and eventual absence of impacts, the research team decided to interview Per Scholas graduates who had completed training 10 or more years before as part of the WorkAdvance study.[26] The interviews were conducted between December 2023 and April 2024. While the team hoped to select a purposive sample that varied along dimensions such as gender and career trajectory, the team ended up with a convenience sample when the initial number of participant responses was not sufficient. At that point, the team sent invitations for interviews to all 334 people in the Per Scholas impact sample who had started the program's technical skills training, including people who may not have completed the program. The email to sample members reminded them about their training at Per Scholas and their participation in the study, explained the current research, and offered them a chance to book an interview at a convenient time. They were told they would receive a $25 gift card for their time (eventually increased to $75 after the initial low response rate) and were sent the full consent document to review in advance of the interview.

In the end, the team interviewed 12 people — 2 women and 10 men. Although it was not a purposive sample, the team still ended up hearing from people who had quite varied experiences. Overall, the interviewees had four main trajectories:

- They advanced more or less continuously within the IT sector and were still working in IT.
- They advanced for some time in IT but then were either laid off or stopped advancing, and were either unemployed or no longer working in IT.[27]
- They advanced more or less continuously but in a field (or fields) other than IT.
- They struggled to gain traction and advance in any field.

One-half of the Per Scholas graduates who were interviewed had completed additional education or training, which in turn helped them advance their careers, both in and outside the IT sector. Two participants who had advanced within the IT sector did so by obtaining additional industry credentials (such as CompTIA Security+ or Network+) after receiving their CompTIA A+ credential upon completion of their training at Per Scholas. Five interviewees had pursued an academic degree: one had received an associate's degree and then a bachelor's degree, two others had received a bachelor's degree, and one person was in college pursuing a bachelor's degree at the time of the interview.

26. For this report, the research team had the opportunity to interview Per Scholas and St. Nicks Alliance graduates but not graduates from the other WorkAdvance programs.
27. This trajectory, which was experienced by two of the interviewees, supports the latest impact findings for Per Scholas, though it was not the experience of most interviewees.

In addition to (or instead of) pursuing more credentials, three Per Scholas interviewees advanced their IT careers by getting a new job at a different employer and two were promoted at their current company. One interviewee described getting additional benefits when he went from working as a contractor assigned to a certain company to being hired as an employee of that company: "When I was working under a contract at [the company] I was paid by the hour, but once I got hired full time, I got a salaried position in addition to benefits and a 401k." Another said, "I stayed at [the company] for about seven years. I started at Level 14 and got promoted twice, to Level 16."

Participants who no longer worked in IT offered anecdotal insight into the fading earnings impact. Those who had been laid off during the COVID-19 pandemic or afterward reported that it was difficult to find a job in an oversaturated market. A few turned to gig work to support themselves while they looked for more secure sources of employment. One interviewee said,

> "Right now, I'm in between jobs. Unfortunately, I was part of the massive layoffs in the tech sector that have been ongoing since last year. I'm not in a good moment right now, to be honest. I'm doing everything that I can, Uber Eats or Amazon Flex. . . . Since I'm bilingual, sometimes I get gigs as an interpreter for English and Spanish. But that's not constant work."

Though some interviewees were affected by the layoffs, most enjoyed a thriving career in the tech sector. Given the small size of the interview sample and the wide variation in interviewee's reported experiences, the interviews did not point toward a coherent explanation for why impacts declined and eventually disappeared.

While most interviewees had not gone back to Per Scholas for additional support once they finished their initial training, some discussed finding mentors at their companies who gave them advice about how to advance, which is something they said Per Scholas had encouraged them to do. One interviewee said,

> "I had two different mentors, one in each field. At [Company A], my manager mentored me. He had a unique way of presenting himself and shining. At [Company B], my direct supervisor has been a fantastic mentor in teaching me software [and] how to approach the upper echelon of [Company B]."

All 12 interviewees spoke positively about their time at Per Scholas and attributed at least part of their success to what they learned or experienced there. Even individuals who no longer worked in IT spoke positively about the resources that were offered by the program during their training. Specifically, most interviewees spoke highly of the skills training class, the close-knit bonds they formed with other participants, and the dedication and support of their teachers and mentors. One interviewee said, "I noticed a lot of the teachers would ask, 'Are you okay? Are you having a problem with anything?' For people who didn't learn as quickly, they would take time to make sure that everyone was on the same page before they would move on." Another said, "We had a great group, and everybody who completed the course also passed the certification tests." And another concluded, "I wouldn't have been

able to make it if it had not been for the first training I got at Per Scholas." These positive sentiments suggest that the program offerings and experiences hold intrinsic value beyond what quantitative data can measure.

St. Nicks Alliance

St. Nicks Alliance is a community-based organization in Brooklyn, New York, that offers a range of services. Its workforce training program, which is focused on environmental remediation, started in 2001.[28] For the evaluation, St. Nicks Alliance added components of the WorkAdvance model to its job training program within the context of operating an organization that also provided other education, housing, and health care services, and later added training in hazardous materials transportation and pest control.[29] It took time for the organization to fully implement the WorkAdvance model.

Employment and Earnings Impacts

In Year 10, the St. Nicks Alliance WorkAdvance program produced strong positive and statistically significant effects on both confirmatory outcomes. (See Table 3.) The WorkAdvance group earned an average of $8,580 (or 32 percent) more than the control group and was 7 percentage points more likely to earn $45,000 or more. These are among the largest impacts on earnings found during this 10-year study. There was no impact on employment that year, as expected. This pattern suggests that people in the WorkAdvance group advanced into better-paying jobs at a higher rate than people in the control group.

The St. Nicks Alliance WorkAdvance program also produced statistically significant impacts on earnings and on the percentage of people who earned $45,000 or more annually in Years 8 and 9. (Similar findings from the IRS data are shown in Appendix Table A.1). Earnings among WorkAdvance group members increased by small amounts each year, while earnings among control group members were stagnant and even decreased between Years 8 and 9. This finding suggests that more people in the WorkAdvance group were in higher-paying roles and may have had more stable employment than their counterparts in the control group. As expected, given the impacts on earnings, people in the WorkAdvance group were less likely to receive UI benefits in Years 7 to 10, with a statistically significant reduction of 7 percentage points in Year 9. (See Appendix Table A.3.)

The program's impacts on earnings were more positive than in previous reports (through Year 7), and Year 8 is the first year they are statistically significant. It is unusual to see such large effects 8 to 10 years after random assignment without also seeing shorter-term impacts, and

28. Jobs in the environmental remediation sector deal with the removal of pollutants and contaminants from the environment, including from water and soil.

29. Training services in these fields were added because the environmental remediation sector changed over time—for example, hiring practices changed from a model in which employers hired people directly to one that mainly relied on contractual hires made through staffing agencies)—and because hiring in that sector was seasonal (and as part of the study, the organization needed to recruit participants year-round).

Table 3. St. Nicks Alliance Impacts on Employment and Earnings, Years 7 to 10

Outcome	WorkAdvance Group	Control Group	Difference (Impact)	P-Value
Total earnings ($)				
Year 7	28,227	25,620	2,608	0.264
Year 8	29,917	25,487	4,430 *	0.095
Year 9	30,667	22,679	7,988 ***	0.004
Year 10	35,218	26,638	8,580 ***	0.005
Earned $45,000 or more (%)				
Year 7	25.8	21.7	4.1	0.288
Year 8	30.1	22.4	7.7 *	0.053
Year 9	30.4	22.2	8.2 **	0.040
Year 10	34.6	27.6	7.0 *	0.091
Ever worked (%)				
Year 7	75.6	79.0	-3.4	0.370
Year 8	73.6	75.5	-1.9	0.629
Year 9	70.4	67.0	3.4	0.426
Year 10	72.8	67.0	5.8	0.166
Sample size (total = 479)	242	237		

SOURCE: MDRC calculations using National Directory of New Hires data.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

In this analysis, the two confirmatory outcomes are total earnings and the percentage of people earning $45,000 or more, both in Year 10.

it is unclear what is driving this trend. The COVID-19 pandemic's varying effects on different industries could be one factor. Some of the roles that were targeted by the St. Nicks Alliance training programs — including pest control, waste management and remediation services, construction, and truck driving — remained "essential" during the pandemic, compared with other industries that shut down almost completely amid lockdown orders.[30] Because the NDNH data do not indicate the sector in which someone is working, it is impossible to know how many people worked in those industries and whether their sector explains the trend.

30. New York City Comptroller (2020) and National Center for Immunization and Respiratory Diseases (2021).

These impacts are likely not solely driven by COVID-19 economic trends. The St. Nicks Alliance program's impact on earnings began increasing before the pandemic and continued well beyond the lockdown period. The WorkAdvance group earned, on average, $9,878 more than the control group in 2022 and $10,677 more in 2023. (See Appendix Figure A.3.)

Regardless of the reason behind the trend, it is quite remarkable to see large and growing effects on earnings after 10 years. Such long-term earnings gains are not often seen in evaluations of workforce programs and highlight the effectiveness of the St. Nicks Alliance program. Additionally, over the full 10-year period, people in the WorkAdvance group earned about $13,000 more than people in the control group, further highlighting the overall impact of the program.

Participant Trajectories

Much like they did with the Per Scholas graduates, the research team members conducted interviews with 12 individuals who completed training at St. Nicks Alliance at least 10 years earlier. The team aimed to get a deeper understanding of the graduates' educational and employment paths and explore potential reasons behind the late growth in impacts. Based on the experience with the Per Scholas interviews, the team used a convenience sample of St. Nicks Alliance graduates: Invitations for interviews were sent to 242 individuals who were part of the impact sample and had started (though had not necessarily completed) training. The email reminded them of their training at St. Nicks Alliance and their participation in the study, explained the current research, and offered them the opportunity to schedule an interview at their convenience. Given the initial low response rates of Per Scholas participants, St. Nicks Alliance participants were informed from the start that they would receive a $75 gift card and were sent the full consent document to review before the interview.

Ultimately, the team interviewed four women and eight men. Seven people had participated in pest control training, four had taken environmental remediation training, and one had trained to get a hazardous materials endorsement on a commercial driver's license. Two interviewees had already obtained bachelor's degrees when they started training at St. Nicks Alliance, and one had been pursuing an associate's degree. They joined the program seeking hands-on experience and certifications or a direct route to employment. An interviewee with a bachelor's degree in a health-related field said she pursued the training at St. Nicks Alliance because "a lot of jobs wanted you to have certs already." St. Nicks Alliance helped her "get her foot in the door" in this sector by helping her obtain those certifications and her first job, testing water with an environmental engineering firm.

Ten years after their training at St. Nicks Alliance, six of the interviewees were still working in the sector they had trained for. For example, one interviewee said,

> I am a pest control applicator. I worked [as a pest control technician] for a company . . . for about half a year, but they were paying us $450 per week, which was basically nothing. My [child] was born at around that time so I had to step up for my family. I opened up my own business. . . . I am doing pretty well.

Another interviewee worked in the environmental health and safety field, holding various positions and moving across the country for better opportunities. The other six interviewees pursued different career paths, with roles in housekeeping, day care, law enforcement, construction management, real estate, and health care.

Eleven of the St. Nicks Alliance interviewees had pursued additional education or training as a tactic to advance. Five interviewees had obtained additional credentials or licenses that built on the ones they received at the conclusion of their St. Nicks Alliance training, including pest control licenses, environmental certificates, and certifications in electrical and occupational safety; two interviewees had obtained additional credentials in fields that were unrelated to what they studied at St. Nicks Alliance. The interviewee whose first job was at an environmental engineering firm had eventually pursued an MBA in safety management and a graduate environmental certificate, which allowed her to move into and advance in the environmental health and safety field. Another interviewee had earned her associate's degree around the same time she completed her pest control training at St. Nicks Alliance. She later earned bachelor's and master's degrees while working in a related field; each subsequent degree helped her get promoted to higher-level positions at the same public sector employer.

Nine interviewees mentioned advancing their careers by changing jobs or employers. Whether still in the sector they had trained for or not, they often moved between different companies, negotiating higher salaries and better benefits. One interviewee who had moved from pest control to security said,

> In private security, I've changed employers three times over five years. My first employer [paid] $18 [an hour]. Then another company offered me $23. I negotiated with my company, but they refused to go over $23, so I got back to the other company and got $26. Then one of my supervisors left and went to another company and brought me along because he knew I was a good employee. I mentioned that I was a family man, wanting to buy a house. I got $42 and [an electric car] so I didn't have to buy gas. Compare this to my first job in pest control at $13.

Three interviewees advanced within their organizations, receiving promotions and taking on new roles. One said,

> When I started the [St. Nicks Alliance] program, I was not working. Now I am. . . . Someone told [me] about the program and encouraged me to try it. I took the [environmental remediation] program . . . put it on my resume. I got called to be an exterminator in [a City of New York department] in the environmental health unit. A year later, I was made supervisor of extermination in [the department] for all five boroughs. That office also handles the environmental health side of things, so it was a plus that I had the training in remediation. I brought a lot of things to the table.

That interviewee also described hitting a ceiling in his department; he made a lateral move that involved taking a pay cut, but that would eventually lead to more opportunities than the supervisor role.

The COVID-19 pandemic created a mix of challenges and opportunities for the interviewees. Eight interviewees reported that they continued to work during the pandemic, two reported losing their jobs, and two did not specifically discuss the effects of the pandemic on their career trajectory. Five of the eight people who continued working had been working in the field they trained for when the pandemic hit. Of the people who continued to work, six stayed in the same job and two moved into a different job. One person who worked in pest control described a shifting demand for his services during that period:

> They closed all the restaurants in New York; 80 percent of my business is restaurants. I had to let some people go. I haven't hired them back since then. My business went down. It was really, really bad . . . 90 percent of the businesses I was working with failed. [But] after everything opened up, there was a boom, because everyone had a lot of rats and roaches. I picked up a few accounts from that.

One interviewee had worked as an investigator for an insurance company during the pandemic, a job that could be done remotely: "I worked the most during the pandemic because everybody was at home. I was investigating insurance fraud and was working 20 to 30 hours of overtime. It was great because I didn't have to interact with other people [in person]." Some interviewees pursued further education or started their own businesses during the pandemic closures — for example, one interviewee pursued a master's degree online.

The interviewees generally had positive experiences with St. Nicks Alliance and appreciated the training, support, and opportunities provided by the program. Many credited St. Nicks Alliance with helping them gain confidence, obtain certifications, and secure their first jobs. One interviewee recalled,

> They used to give us these little courses on interviewing and stuff like that. One thing that [the coach] told me — he said, "You know, if you can't look a person in the eye, it's okay. Look at them in the middle of their forehead." And it works! I never forgot that. . . . Although you're nervous, that can take some of the nerves off.

Another interviewee said, "St. Nicks' trainings got me to understand that there are resources out there, but that if you stay home and don't research or network, you won't be able to take advantage of them." Another interviewee said,

> St. Nicks was really important. It got me out of a funk or rut. Sometimes you get stagnant and you feel a lot of despair. I was going stir-crazy trying to find employment that suited me. It gave me a push to say, "You can do things. You can reinvent yourself." The training helped me say, "You can do something else. You're good." When I walked into the interview, I felt confident. I knew if they didn't hire me then someone else would. I had all these credentials, all this stuff to give. I think they felt that.

Regardless of whether the interviewees remained in a field related to the one they trained for, most felt that the program at St. Nicks Alliance played a crucial role in shaping their career trajectories and providing valuable skills and resources that have continued to benefit them 10 years later.

Madison Strategies Group

At the beginning of the WorkAdvance study, Madison Strategies Group was a brand-new nonprofit organization in Tulsa, Oklahoma.[31] The organization provides workforce development services to job seekers. Its WorkAdvance program initially offered training in the transportation sector and later added a focus on manufacturing, since someone who is trained to manufacture transportation-related parts has the requisite skills to work in manufacturing more generally. Many of the manufacturing jobs that participants were trained for were in the energy sector. Initially, the organization offered a "placement-first" track (in which some participants skipped occupational skills training and sought immediate employment) in addition to the main "training-first" track, but it phased out the placement-first track halfway through the study intake period (in late 2012).[32]

In Year 10, the Madison Strategies Group WorkAdvance program did not have a statistically significant effect on either confirmatory outcome. (See Table 4.) Individuals in both the WorkAdvance and control groups earned about $22,000 that year, on average, and similar rates of individuals in both groups earned at least $45,000 (about 17 to 18 percent).

It is of note that even with no differences in earnings, there was a negative impact on employment in Year 10: 65 percent of people in the WorkAdvance group worked at some point that year, compared with 71 percent of people in the control group. (This pattern is also seen in Year 9.) It is unclear what led to the decrease in employment, but, as Appendix Table A.7 shows, it appears to be driven by a large, negative impact on employment among people who joined the study later. The Madison Strategies Group WorkAdvance program did not have an effect on earnings, as measured by the IRS data, in any year (Appendix Table A.1) or on the receipt of UI benefits in Years 7 to 10 (Appendix Table A.4).

In earlier findings, the Madison Strategies Group WorkAdvance program increased measures of earnings, including average earnings in Year 2 and the percentage of people who earned at least $30,000 annually in 2017 and 2018. Additionally, over the full 10-year period, people

31. Madison Strategies Group is a nonprofit spin-off of Grant Associates, a for-profit workforce development company with sector program experience in New York City. Madison Strategies Group was able to take advantage of its parent organization's institutional knowledge.

32. The placement-first track was thought to be a less expensive but still effective route to advancement. The idea was that individuals would gain experience and sector-specific skills (through on-the-job training, for example) without going to formal training first. Another rationale for the track was that it would help the providers build relationships with employers sooner because they were able to offer and deliver a more immediate service. However, preliminary evidence showed that individuals in the placement-first track were entering jobs that paid low wages and were not gaining skills they needed to advance (as originally hoped), so the track was phased out.

Table 4. Madison Strategies Group Impacts on Employment and Earnings, Years 7 to 10

Outcome	WorkAdvance Group	Control Group	Difference (Impact)	P-Value
Total earnings ($)				
Year 7	21,309	21,078	231	0.880
Year 8	19,984	20,007	-23	0.988
Year 9	19,720	19,286	434	0.794
Year 10	21,717	22,407	-690	0.707
Earned $45,000 or more (%)				
Year 7	15.3	13.1	2.1	0.424
Year 8	14.8	11.9	2.9	0.253
Year 9	14.5	11.0	3.6	0.159
Year 10	18.2	16.8	1.4	0.625
Ever worked (%)				
Year 7	75.0	76.6	-1.6	0.613
Year 8	69.9	73.4	-3.5	0.301
Year 9	67.1	73.0	-6.0 *	0.085
Year 10	65.2	71.2	-5.9 *	0.092
Sample size (total = 697)	353	344		

SOURCE: MDRC calculations using National Directory of New Hires data.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

In this analysis, the two confirmatory outcomes are total earnings and the percentage of people earning $45,000 or more, both in Year 10.

in the WorkAdvance group had higher cumulative earnings — of about $8,000 — than people in the control group. Around Year 2, the program also improved measures of job quality — including job satisfaction and the likelihood of having a job that offered health insurance or paid vacation — that cannot be measured using NDNH data. It is unclear whether those job quality effects would have persisted.[33]

33. The Year 2 earnings impacts were based on UI wage data from the New York State Department of Labor, the 2017 and 2018 high-earnings impacts were based on NDNH data, and the impacts on job quality were based on Year 2 survey data. See Hendra et al. (2016) and Schaberg and Greenberg (2020) for more information.

Towards Employment

Towards Employment is an established, community-based organization in northeast Ohio that provides employment services. It targeted both the health care and manufacturing sectors as part of the study. Before the study, it focused more on work-readiness services than technical training, although it did have experience providing training for entry-level health care jobs. Like Madison Strategies Group, Towards Employment initially offered both the placement-and training-first tracks before phasing out the placement-first track in late 2012.

As Table 5 shows, the Towards Employment WorkAdvance program did not have an effect on either Year 10 confirmatory outcome. People in the WorkAdvance group earned about $23,700 on average that year — about $1,500 more than people in the control group — but the difference was not statistically significant.

Table 5. Towards Employment Impacts on Employment and Earnings, Years 7 to 10

Outcome	WorkAdvance Group	Control Group	Difference (Impact)	P-Value
Total earnings ($)				
Year 7	20,702	19,703	998	0.454
Year 8	20,841	18,923	1,918	0.197
Year 9	21,634	19,356	2,278	0.156
Year 10	23,677	22,184	1,493	0.392
Earned $45,000 or more (%)				
Year 7	11.0	9.7	1.3	0.554
Year 8	12.6	10.9	1.7	0.476
Year 9	16.4	11.7	4.8 *	0.065
Year 10	19.8	16.9	3.0	0.302
Ever worked (%)				
Year 7	80.3	79.5	0.8	0.788
Year 8	75.4	72.5	2.9	0.384
Year 9	73.2	69.5	3.6	0.281
Year 10	72.6	70.9	1.7	0.609
Sample size (total = 698)	349	349		

SOURCE: MDRC calculations using National Directory of New Hires data.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

In this analysis, the two confirmatory outcomes are total earnings and the percentage of people earning $45,000 or more, both in Year 10.

The Towards Employment WorkAdvance program did increase the percentage of people who earned $45,000 or more in Year 9 by a statistically significant amount; 16 percent of people in the WorkAdvance group earned $45,000 or more, a 5 percentage point increase over the control group. There were no effects on earnings in any year, as measured by the IRS data and shown in Appendix Table A.1. The program had no effect on employment or on receipt of UI benefits in Years 7 through 10, as expected. (See Appendix Table A.5 for the latter.)

Prior findings from the study showed that the Towards Employment WorkAdvance program produced impacts on earnings in Year 2 and on the percentage of people earning at least $40,000 in Year 7. Additionally, people in the WorkAdvance group had about $8,000 more in cumulative earnings over the 10-year study period than people in the control group. In Year 2, the program also produced impacts on work-related measures, like work schedules and job types. The latter measures cannot be assessed with the NDNH data, and it is unclear if the program would have produced impacts on similar measures beyond Year 2.

The Role of the COVID-19 Pandemic

The COVID-19 pandemic was a major unexpected factor that likely contributed to the effects in Years 8 to 10. The outcomes presented in this report span from 2017 to 2023—a time that included the beginning of the pandemic and the recovery period. (See Appendix Figure A.1 for more details.) The pandemic had significant, far-reaching economic impacts and inevitably influenced the economic outcomes of the people in the WorkAdvance study. Yet it is unclear exactly how.

Research has found larger short-term impacts for training programs in weaker economies than in stronger ones.[34] Yet during recessions, individuals with lower educational levels may be the most vulnerable to layoffs. During recovery periods they may struggle to compete. The recession brought on by the COVID-19 pandemic was unique. Compared with the 2008 recession, job loss and unemployment rates increased faster, industries were affected differently, and there was a larger policy response.[35] It is difficult to determine what the programs' effects would have been if the pandemic had not happened

It is possible that the WorkAdvance programs prepared participants by helping them establish their careers, which may, in turn, have helped them weather the significant economic downturn. It is also possible that some of the target sectors were more recession-proof than others because workers in those sectors were critical to the pandemic response (like essential health care workers) or because they could fulfill their job responsibilities remotely (for example, IT workers).

To understand what happened to people in the WorkAdvance study during the pandemic, the research team explored trends in average employment rates and earnings from 2017 to the

34. Card, Kluve, and Weber (2018).

35. Wallheimer (2020).

first half of 2023 (shown in Appendix Figures A.2 to A.5). In both the WorkAdvance and control groups — at all four WorkAdvance programs — participants' average earnings fell between 2019 and 2020 before rebounding in 2021. Employment rates also decreased, but they did not bounce back to the same extent and they took longer to bounce back. This finding suggests that individuals with lower earnings were less likely to be employed, consistent with the larger economic trends that were observed during this period. Individuals who worked in low-wage industries were hit harder by the economic downturn and had higher unemployment rates and a slower recovery than workers in higher-paying industries.[36]

LONG-TERM ECONOMIC IMPACTS FOR THE POOLED SAMPLE AND SUBGROUPS

The main WorkAdvance impact analysis was done at the program level. However, given the substantial variation among the providers, it is useful to understand how a model like WorkAdvance might perform overall, among all the providers. Additionally, there was considerable variation among the people who enrolled in the WorkAdvance study, in terms of their demographics, education, work experience, and other characteristics. At the start of the study, it was an open question whether WorkAdvance would work better for some people than for others, and whether the programs should target specific groups or offer them additional support or services.

This section presents findings from analyses that explore these two areas. First, the analysis of the pooled sample — combining people from all four WorkAdvance programs — provides insight into the effectiveness of the WorkAdvance model overall. Next, results from "subgroup" analyses are shown to assess whether WorkAdvance works better for some people than others. All findings in this section are based on the NDNH data and are considered exploratory, meaning they are not the main measures of the success of WorkAdvance but rather provide insight into how the model could be strengthened.

Pooled Sample

For the pooled sample analysis, the research team ran impacts among everyone in the study. Table 6 shows that in Years 7 through 10 WorkAdvance increased both average earnings and the percentage of people who earned at least $45,000 a year. In Year 10, individuals in the WorkAdvance group earned $2,089 more than individuals in the control group, on average, and were 3 percentage points more likely to have earned $45,000 or more. There was no difference in employment rates among the pooled sample. Those impacts show that the WorkAdvance model increased participants' long-term earnings. However, the findings mask the considerable variation in impacts that are observed across the programs (and which are discussed in the previous section).

36. Center on Budget and Policy Priorities (2024).

Table 6. Impacts on Employment and Earnings for the Pooled Sample, Years 7 to 10

Outcome	WorkAdvance Group	Control Group	Difference (Impact)	P-Value
Total earnings ($)				
Year 7	27,614	25,622	1,992 **	0.034
Year 8	27,649	25,018	2,630 ***	0.010
Year 9	28,031	25,400	2,631 **	0.016
Year 10	30,845	28,756	2,089 *	0.074
Earned $45,000 or more (%)				
Year 7	23.0	20.1	2.9 *	0.057
Year 8	24.0	20.8	3.2 **	0.041
Year 9	25.9	21.8	4.2 ***	0.009
Year 10	29.7	26.7	3.1 *	0.067
Ever worked (%)				
Year 7	80.0	79.7	0.3	0.854
Year 8	75.7	75.9	-0.2	0.911
Year 9	72.9	73.1	-0.3	0.883
Year 10	72.6	73.2	-0.6	0.741
Sample size (total = 2,564)	1,293	1,271		

SOURCE: MDRC calculations using National Directory of New Hires data.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
Rounding may cause slight discrepancies in sums and differences.

Labor Market Attachment Subgroups

The research team separated participants into three groups: a group of people who were fully attached to the labor market (those who were currently working or had been unemployed for less than one month at study entry), the semiattached group (people who had been unemployed for one to six months at study entry), and the long-term unemployed group (people who had been unemployed for seven or more months or had never been employed at study entry). It was hypothesized that WorkAdvance would be most effective for people in the semiattached group — the ones who had some connection to the labor market. This expectation was rooted in the results of previous studies, which showed that employment programs can be most effective for individuals who are at a "tipping point" in their employment trajectories.[37]

37. The Employment Retention and Advancement evaluation and other welfare-to-work studies showed an "inverted U" subgroup pattern. See Hendra et al. (2010), Hamilton and Scrivener (2012), and Friedlander (1988).

Consistent with prior findings, WorkAdvance increased earnings among people in the semi-attached subgroup by about $3,600 in both Year 7 and Year 8, as shown in Appendix Table A.6. Those impacts faded in Years 9 and 10. Among people who faced long-term unemployment, WorkAdvance increased earnings (by between $2,795 and $3,063) from Year 7 to Year 9. There were no impacts on earnings among people who were fully attached to the labor market when they entered the study. Overall, these findings are consistent with other research in this area.

Cohort Subgroups

Past reports have emphasized findings from the "cohort" analysis — an analysis that explored whether the findings among individuals who entered the study earlier (the "early cohort") differed from the findings among individuals who entered the study later (the "late cohort"). This analysis stemmed from two findings from the implementation analysis. First, it took time for the providers to fully implement the WorkAdvance model components, and consequently, individuals who entered the study later probably received stronger services than individuals who came in earlier. Second, Towards Employment and Madison Strategies Group initially implemented the placement-first track but later phased it out after seeing that people on that track entered low-wage jobs and did not gain the skills they needed to advance. While the influence of these program differences on economic outcomes was expected to fade in the long term, the cohort findings provide some insight into what may be driving the full program-level impacts.

The findings align with the research team's expectation that a participant's cohort would be less relevant in longer-term analyses. As Appendix Table A.7 shows, there are no statistically significant differences in impacts between the early and late cohorts at any WorkAdvance program — with one exception. At Madison Strategies Group, the late cohort had a negative impact on employment (of 12 percentage points) while the early cohort had no impact. It is unclear what led to this difference in impacts.

Self-Identified Race and Ethnicity Subgroups

One of the goals of some sector programs is to create alternative pathways for people who have historically had trouble entering a sector, either due to discrimination or because they have fewer social connections. Early research showed that sector programs may be most helpful to people who do not have access to the informal recruitment networks that many industries use to hire employees, many of which are based on ethnicity, family ties, or neighborhoods.[38] The WorkAdvance model did not originally describe these pathways as enhancing racial equity, instead focusing on the benefits to communities with low incomes.[39] Given the potential benefit of these programs, however, it is relevant to review the impacts

38. National Economic Development and Law Center (1994).

39. Jones (2022).

of WorkAdvance by race and ethnicity to understand how effective the model is at increasing earnings for various groups in the long term.

The race and ethnicity subgroup analysis split the pooled sample into three groups: Hispanic, Latino, or Spanish; Black, non-Hispanic; and White, non-Hispanic.[40] Fifteen percent of sample members (1) identified as non-Hispanic and listed Asian, American Indian, or "other" as their race; (2) identified as multiracial; or (3) did not provide a race. These people are not included in the subgroup analysis due to data security requirements associated with small sample sizes.[41]

The findings show that, for the most part, the differences in earnings impacts between the race and ethnicity subgroups are not statistically significant (shown in the rightmost column in Appendix Table A.8). However, there are earnings impacts among people who identify as Hispanic, Latino, or Spanish and people who identify as Black, non-Hispanic in Years 8 and 9, while there are no earnings impacts among people who identify as White, non-Hispanic. It is important to note that the differences in impacts between these subgroups can be explained in part by the distribution of the subgroups in the programs. Less than 10 percent of the participants in the two programs that had impacts on earnings — Per Scholas and St. Nicks Alliance — identified as White, non-Hispanic. Meanwhile, this group made up a larger percentage of the sample at Madison Strategies Group and Towards Employment, which did not show impacts.

CONCLUSION

The overall story about the effectiveness of the WorkAdvance model at increasing earnings has not changed drastically since the update at Year 7, even though the impacts of some programs have changed. The findings still suggest that sector programs *can* increase long-term earnings and *can* lead to advancement, but not all programs achieve these goals. This pattern suggests a need for sector programs to be strengthened so effects on earnings are seen more often and at more providers. Some ideas for strengthening programs are discussed at the end of this section.

In Year 10, impacts on earnings varied among the WorkAdvance programs, while there were no positive impacts on employment rates for any program, as expected. The St. Nicks Alliance program was the only one to have impacts on earnings outcomes in Year 10. Its program began to show large earnings effects in Year 8 (with the trend of more positive results starting

40. The WorkAdvance baseline information form asked people whether they considered themselves to be White; Latino, Hispanic, or Spanish; Black or African American; Asian or Pacific Islander; American Indian or Alaska Native; or some other race. Individuals were instructed to select one or more of these categories.

41. As shown in Table 1, the programs varied considerably in how their samples identified by race and ethnicity. More than 20 percent of the Madison Strategies Group sample identified as American Indian, comprising the vast majority of self-identified American Indian sample members in the study.

in Year 7), and they lasted through Year 10, when the program increased earnings by over $8,500 (or 32 percent). These impacts are some of the largest seen during the 10-year study. The Per Scholas program had effects on earnings through Year 8, after which they faded. The Madison Strategies Group and Towards Employment programs did not produce impacts on earnings in Years 8 through 10.

What the Impact Findings Say About the WorkAdvance Model and the Promise of Sector Programs

The findings in this report provide evidence about the long-term effectiveness of sector programs. Yet at the same time, the findings should be interpreted with several considerations in mind.

First, the COVID-19 pandemic appeared to play a large role in the Year 8 to 10 employment outcomes of people in the WorkAdvance study (which is further evidenced by the outcomes that are shown by calendar year in Appendix Figures A.2 to A.5). While the findings show the effects the WorkAdvance programs had on employment outcomes during that period, they may not be the best example of the long-term effects of sector programs and cannot be generalized to other programs operating under different economic conditions.

Second, the two confirmatory outcomes for this analysis — average earnings and percentage of people who earned $45,000 or more, both in Year 10 and both based on the NDNH data — are only two measures of the success of the WorkAdvance programs. A lack of impacts on these outcomes does not mean that the programs did not have an impact on other outcomes, nor does it mean that prior impacts on earnings or other outcomes did not make a difference in participants' lives.

Third, the NDNH data only capture the total earnings of people in a given quarter from employers that contribute to the UI system. The IRS tax data provide some evidence of independent contract work and self-employment but not the amount that was earned through that type of work. Neither data source captures earnings from informal jobs nor provides insight into other outcomes, including salary, sector, or job quality measures (like schedule, benefits, or job satisfaction). In Year 2, all four WorkAdvance programs increased the likelihood of working in the target sector and three programs improved job quality measures. Effects may have persisted for some or all the programs beyond that year. And while those other outcomes are not the main indicators of the long-term effectiveness of the WorkAdvance programs, impacts on those outcomes could have contributed to participants' career advancement, work-life balance, or overall happiness or satisfaction, which are also important indicators of a program's effectiveness. Additionally, the qualitative interviews of Per Scholas graduates suggest that the type of advancement coaching that WorkAdvance offered can encourage participants to continue to think about how to advance well into their careers. Many interviewees recalled using approaches they learned while in the programs — such as finding a mentor at one's workplace and advancing by changing employers, getting additional skills, and positioning oneself for a promotion.

Finally, the organizations that implemented the WorkAdvance model as part of the evaluation are still operating sector programs. They have made significant changes — in some cases by changing how they offer services, in others by expanding into new sectors or locations, or by working with new populations. The findings here show the effectiveness of the WorkAdvance programs that were implemented 10 or more years ago and do not reflect the effectiveness of the programs run by the organizations as they exist today.

What Might Explain the Overall Pattern of Effects Over 10 Years

Over the 10-year follow-up period for the WorkAdvance study, three patterns of economic impacts emerged (shown in Appendix Figures A.6 to A.9):

- One program had strong, positive impacts on earnings through Year 8 — along with impacts on other outcomes (like overall income and life satisfaction) in Year 2 — but those effects faded in Years 9 and 10.

- Two programs had earnings effects in Year 2 (along with some effects on measures of job quality) that, for the most part, faded in the long term.

- One program had effects on earnings that started in Year 8 (with positive differences seen in Year 7) and lasted through Year 10.

The first two patterns have been observed in other studies and are perhaps more easily interpreted than the third pattern. Those two patterns — of impacts emerging and later fading at different points — suggest that the programs helped people enter jobs in sectors that paid more than they could have otherwise obtained on their own. With more time, however, people who did not have access to the WorkAdvance programs likely found jobs — in the same or different sectors — that resulted in them having similar earnings, causing the early impacts to disappear. (It is unclear what role the COVID-19 pandemic played in this trend for Per Scholas.)

The third pattern is unique. It suggests that the effects of the program did not emerge until eight years after people entered the program (and study). It is possible that the effects emerged earlier but were not observable in the analysis. But even in that case, the effects have continued to grow through Year 10. This finding is quite remarkable. It is not clear what led to this pattern. While the earnings impacts are strongest during the COVID-19 pandemic and the associated recovery period, that does not appear to be the driver — or at least the only driver — as the impacts had been strengthening before the pandemic. (See Appendix Figure A.1 for more information on the overlap between the pandemic and study periods.) Another factor must be leading to these advancement gains.

Putting WorkAdvance in the Context of Other Recent Training Studies

Since the WorkAdvance evaluation began in 2011, additional sector and career pathways programs have been rigorously evaluated, expanding the evidence base.[42] Overall, the evidence available on these programs aligns with the WorkAdvance findings and suggests that while sector programs can yield favorable outcomes for participants who enroll with the goal of increasing employment rates and earnings, not all programs produce effects on these outcomes.

Only a few new sector programs have demonstrated labor market impacts since the WorkAdvance evaluation began. Year Up, a one-year program offering job training and work-based learning to young adults, has been shown to increase earnings. As one of several career pathways programs with a sector focus that were evaluated in the Pathways for Advancing Careers and Education evaluation, Year Up produced sustained impacts on participants' earnings over seven years, with people in the program group earning 30 percent more than people in the control group in the second half of Year 7.[43] Another promising sector program is Project QUEST, which provides support services to participants while they attend health care workforce and skills training. Project QUEST has produced positive long-term impacts on participants' earnings, with people in the program group earning about $4,600 more, on average, than people in the control group in Year 11.[44]

However, other training programs with a sector focus have not shown the same success.[45] There has also been an increase in sector programs across the country, most of which have not been evaluated. To best understand the way these programs operate and their ability to serve participants, researchers need to build on existing findings and develop new evaluations. To that end, in early February 2024, MDRC hosted a meeting for sector program leaders to discuss the challenges that they faced and develop a practitioner-led research agenda.[46]

Implications for Programs, Policy, and Research

While the WorkAdvance evaluation began more than 10 years ago and the training and workforce landscape (on both the policy and research sides) has changed since then, the overall

42. Career pathways programs—which have many of the features of sector programs—offer a series of interconnected steps that are designed to enable individuals to obtain certifications and employment within a target sector or occupation, and to advance into higher-level educational and employment opportunities in that area. Participants are also offered a variety of support services to help them overcome barriers to achieving their employment and educational goals.

43. Fein and Dastrop (2022).

44. Roder and Elliot (2021).

45. Some examples include the other career pathways programs in the Pathways for Advancing Careers and Education evaluation and the programs in the Health Professions Opportunity Grants evaluation. See Juras, Gardiner, Peck, and Buron (2022).

46. See Ubalijoro and Schaberg (2024) for findings from that meeting.

findings from the study have implications for how the workforce development field can best help people improve their economic circumstances.

- **All four WorkAdvance programs increased earnings at some point.** While the effects were short-lived for some programs, it does not negate the increased earnings that participants received. People in the WorkAdvance group earned more, on average, in those years than people in the control group. Box 1 also shows that, in all four programs, people in the WorkAdvance group had higher cumulative earnings over the full 10-year period than people in the control group. While this is an exploratory outcome, it suggests that all four programs left people better off. Among the pooled sample, there are increases in earnings in almost every year that was examined. Additionally, most of the programs produced effects on other outcomes — including measures of job quality, income, and life satisfaction — that could have improved the lives of the people in the programs even if they eventually faded.

- **Two WorkAdvance programs produced earnings impacts in Year 2 that then faded.** This trend suggests a few possibilities for future sector programs. First, programs could consider offering training that prepares people for jobs that pay higher wages instead of offering training for entry-level jobs. This level of training could help people earn more and get on a path toward advancement sooner. But it comes with potential tradeoffs: Program staff members would need to do more screening to ensure participants would be successful in completing training, provide additional support services (like tutoring or transportation assistance), offer income supplements or work-based learning experiences so people could support themselves financially during training, or offer longer-term training programs so participants could build the skills they needed (which can be difficult if people cannot work while in training). The trend could also suggest that, after they graduate from the program and obtain an initial job, people may need continued services to help them get their next job. It may not be enough to simply help people enter a high-growth sector. Upskilling could still be necessary, especially in sectors like tech, where the skills required to advance are constantly evolving. More evidence is needed about how and when to support people after they complete training.

- **In interviews, Per Scholas and St. Nicks Alliance alumni said that they did not tend to go back to their respective organizations to get additional services after finding an initial job.** One of the main questions in the field is how programs can best help participants continue to advance after they graduate and find jobs. Yet the interview findings — while not representative — suggest that postemployment services did not reach most participants, and programs may want to consider providing additional support and information to participants while they are still in training. Workers may find it too difficult or not want to continue to engage with program staff members after they are employed. Other workers may think additional support is not necessary or useful. It may be more feasible to discuss advancement opportunities and skills while people are still in training and directly engaged with program staff members. Doing so may demonstrate the value of these services and may motivate more people to reengage with the program later on. Alternatively, programs

that offer training for fields that require regular upskilling could benefit by making post-employment resources more accessible.

- **More research is needed to understand individuals' career trajectories and not just the overall effectiveness of sector programs.** Findings from the interviews suggest Per Scholas and St. Nicks Alliance participants followed a range of career paths. While the interviews provide insight into what happens to people who participate in sector programs — specifically, whether they continue working in the sector they were trained for, whether they advance, and whether they obtain more education — they were only conducted with 24 participants from two WorkAdvance programs. It is not clear whether these experiences would be shared by different people who attended different programs in different sectors.

- **It is unclear what the effects of WorkAdvance would have been in Years 8 to 10 without the influence of the COVID-19 pandemic and the recovery period.** The pandemic affected participants' outcomes (as seen by the decreased average employment rates and earnings). Even the most prepared people who went to the strongest training programs might not have been safe from the economic downturn brought on by the pandemic, which was far-reaching and affected workers with a range of backgrounds and characteristics. Several training studies have released (or will release) findings that occurred during this period.[47] As more findings are released, it will be important to see if there are broader trends in the outcomes and impacts during this period across the studies. It will also be important to look at the findings from studies that tracked outcomes during and after this period to see if the impacts changed over time (which is not possible to test in the WorkAdvance study).

- **Long-term follow-up studies provide insight into the effectiveness of training programs.** Had the WorkAdvance evaluation ended in Year 5 or Year 7, the overall story would have been that only one program increased earnings beyond Year 2. However, extending the study to Year 10 allowed the research team to capture the emergence of earnings impacts at St. Nicks Alliance. It also allowed the team to see the earnings effects at Per Scholas fade. While it is unclear whether these trends will continue, or if other trends will emerge, it is clear that tracking peoples' outcomes for a longer period of time can unlock new information. When possible, future studies should be set up to analyze long-term findings.

Overall, the findings from the decade-long evaluation of the WorkAdvance model suggest that sector programs remain a promising way to help individuals improve their employment prospects. But more needs to be learned so that a greater number of sector programs can be successful, thus helping more people access better opportunities (and helping people who have found some success already). As this evaluation concludes, it is clear that continued research and adaptation will be crucial to refining sector programs and maximizing their potential to foster lasting economic mobility and resilience.

47. One example is the evaluation of Year Up (done as part of the Pathways for Advancing Careers and Education evaluation). That evaluation found that the program appeared to provide "modest protection" from the economic downturn brought on by the pandemic—possibly due to the program training for jobs in IT, which were more easily done remotely than some other jobs. See Fein and Dastrop (2022).

APPENDIX

A

Additional Exhibits

Appendix Table A.1. Impacts on W-2 Earnings and Presence of Schedule C Earnings, by Program

Outcome	WorkAdvance Group	Control Group	Difference (Impact)	P-Value
Per Scholas				
W-2 earnings ($)				
Year 7	45,341	40,250	5,091 *	0.056
Year 8	45,577	40,930	4,647 *	0.099
Year 9	46,301	43,600	2,701	0.369
Participants who reported Schedule C earnings (%)				
Years 1-6	10.4	12.4	-2.0	0.227
Years 7-10	12.3	14.4	-2.0	0.340
St. Nicks Alliance				
W-2 earnings ($)				
Year 7	32,789	29,600	3,189	0.253
Year 8	33,589	27,020	6,569 **	0.027
Year 9	34,880	25,880	9,000 ***	0.003
Participants who reported Schedule C earnings (%)				
Years 1-6	11.2	10.8	0.5	0.814
Years 7-10	8.3	11.6	-3.3	0.127
Madison Strategies Group				
W-2 earnings ($)				
Year 7	23,270	23,540	-270	0.880
Year 8	21,581	23,500	-1,919	0.316
Year 9	21,991	22,820	-829	0.667
Participants who reported Schedule C earnings (%)				
Years 1-6	7.4	8.6	-1.2	0.429
Years 7-10	9.9	12.0	-2.1	0.302
Towards Employment				
W-2 earnings ($)				
Year 7	23,575	21,880	1,695	0.273
Year 8	22,387	20,460	1,927	0.241
Year 9	23,607	21,610	1,997	0.241
Participants who reported Schedule C earnings (%)				
Years 1-6	9.5	9.5	0.0	0.992
Years 7-10	11.5	12.4	-1.0	0.625

SOURCE: Chetty (2025).

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
Estimates in the table are based on IRS data that was accessed through the U.S. Census Bureau.
Individuals who earn income through self-employment file a Schedule C form with their taxes to report any income or loss from their business.

Appendix Table A.2. Per Scholas Impacts on Receipt of Unemployment Insurance Benefits and on Total Earnings, Years 7 to 10

Outcome	WorkAdvance Group	Control Group	Difference (Impact)	P-Value
Received UI benefits (%)				
Year 7	10.3	10.6	-0.3	0.909
Year 8	22.2	23.6	-1.3	0.685
Year 9	23.6	30.1	-6.5 *	0.057
Year 10	12.7	16.3	-3.6	0.173
Earnings from employment and UI benefits ($)				
Year 7	41,675	36,464	5,211 **	0.024
Year 8	43,727	39,087	4,640 *	0.051
Year 9	44,341	42,922	1,419	0.586
Year 10	46,192	44,627	1,565	0.574
Sample size (total = 690)	349	341		

SOURCE: MDRC calculations using National Directory of New Hires data.

NOTES: UI = unemployment insurance.
Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
Rounding may cause slight discrepancies in sums and differences.

Appendix Table A.3. St. Nicks Alliance Impacts on Receipt of Unemployment Insurance Benefits and on Total Earnings, Years 7 to 10

Outcome	WorkAdvance Group	Control Group	Difference (Impact)	P-Value
Received UI benefits (%)				
Year 7	14.0	16.9	-2.8	0.390
Year 8	27.5	31.9	-4.4	0.283
Year 9	30.9	38.4	-7.5 *	0.083
Year 10	17.1	21.0	-3.9	0.263
Earnings from employment and UI benefits ($)				
Year 7	29,039	26,607	2,432	0.298
Year 8	33,667	29,198	4,469 *	0.078
Year 9	34,571	27,929	6,641 **	0.014
Year 10	36,586	28,286	8,300 ***	0.006
Sample size (total = 479)	242	237		

SOURCE: MDRC calculations using National Directory of New Hires data.

NOTES: UI = unemployment insurance.
Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
Rounding may cause slight discrepancies in sums and differences.

Appendix Table A.4. Madison Strategies Group Impacts on Receipt of Unemployment Insurance Benefits and on Total Earnings, Years 7 to 10

Outcome	WorkAdvance Group	Control Group	Difference (Impact)	P-Value
Received UI benefits (%)				
Year 7	12.6	13.0	-0.4	0.865
Year 8	23.7	23.3	0.4	0.899
Year 9	18.5	16.5	2.1	0.469
Year 10	9.6	7.0	2.5	0.232
Earnings from employment and UI benefits ($)				
Year 7	21,940	21,914	26	0.987
Year 8	22,414	22,689	-275	0.861
Year 9	21,556	21,018	538	0.745
Year 10	22,277	22,778	-501	0.785
Sample size (total = 697)	353	344		

SOURCE: MDRC calculations using National Directory of New Hires data.

NOTES: UI = unemployment insurance.
Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
Rounding may cause slight discrepancies in sums and differences.

Appendix Table A.5. Towards Employment Impacts on Receipt of Unemployment Insurance Benefits and on Total Earnings, Years 7 to 10

Outcome	WorkAdvance Group	Control Group	Difference (Impact)	P-Value
Received UI benefits (%)				
Year 7	8.5	7.8	0.6	0.754
Year 8	14.8	11.9	2.9	0.256
Year 9	11.9	15.0	-3.2	0.221
Year 10	3.4	5.5	-2.1	0.173
Earnings from employment and UI benefits ($)				
Year 7	20,910	19,877	1,033	0.438
Year 8	21,459	19,371	2,088	0.159
Year 9	22,067	20,005	2,062	0.197
Year 10	23,757	22,459	1,299	0.456
Sample size (total = 698)	349	349		

SOURCE: MDRC calculations using National Directory of New Hires data.

NOTES: UI = unemployment insurance.
Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
Rounding may cause slight discrepancies in sums and differences.

Appendix Table A.6. Impacts on Employment and Earnings in Years 7 to 10 for Subgroups Defined by Baseline Labor Market Attachment, Among the Pooled Sample

	Fully Attached			Semiattached			Long-Term Unemployed			
Outcome	WorkAdvance Group	Control Group	Difference (Impact)	WorkAdvance Group	Control Group	Difference (Impact)	WorkAdvance Group	Control Group	Difference (Impact)	Sig
Total earnings ($)										
Year 7	28,201	29,361	-1,161	29,491	25,887	3,604 **	25,499	22,704	2,795 *	
Year 8	27,281	27,056	225	29,717	26,066	3,651 **	25,807	22,770	3,037 *	
Year 9	28,939	26,621	2,318	29,791	27,378	2,413	25,828	22,765	3,063 *	
Year 10	32,239	29,670	2,569	33,065	30,352	2,713	28,083	26,588	1,494	
Earned $45,000 or more (%)										
Year 10	31.3	27.7	3.6	31.6	28.7	2.8	27.4	23.6	3.8	
Ever worked (%)										
Year 7	83.5	86.7	-3.2	82.2	80.3	1.9	75.6	74.4	1.2	
Year 8	77.8	80.7	-3.0	78.3	78.2	0.1	72.0	70.2	1.8	
Year 9	75.3	76.7	-1.4	75.4	74.7	0.7	69.0	69.3	-0.3	
Year 10	76.1	75.5	0.6	76.2	74.5	1.7	67.3	70.6	-3.3	
Sample size	308	356		456	449		529	463		

SOURCE: MDRC calculations using National Directory of New Hires data.

NOTES: The fully attached group comprises individuals who, at enrollment, were working or had been unemployed for less than one month. The semiattached group comprises individuals who had been unemployed for one to six months at enrollment. The long-term unemployed group comprises individuals who had never been employed or who had been unemployed for seven or more months at enrollment.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Differences between subgroups were tested for statistical significance. These statistical significance levels (Sig.) are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

Appendix Table A.7. Impacts on Employment and Earnings in Year 10 for Subgroups Defined by Random Assignment Cohort, by Program

Outcome	Early Cohort			Late Cohort			Sig.
	WA Group	Control Group	Difference (Impact)	WA Group	Control Group	Difference (Impact)	
Per Scholas							
Total earnings ($)	41,628	37,108	4,519	48,113	49,904	-1,790	
Earned $45,000 or more (%)	43.8	38.5	5.3	54.3	53.3	1.0	
Ever worked (%)	79.8	82.3	-2.5	79.6	81.9	-2.3	
Sample size (total = 690)	189	185		160	156		
St. Nicks Alliance							
Total earnings ($)	30,401	23,236	7,165 *	40,059	31,360	8,700	
Earned $45,000 or more (%)	29.0	22.3	6.8	39.7	35.2	4.6	
Ever worked (%)	72.6	65.5	7.1	72.0	70.1	1.9	
Sample size (total = 479)	127	131		115	106		
Madison Strategies Group							
Total earnings ($)	17,328	19,078	-1,750	25,631	25,746	-115	
Earned $45,000 or more (%)	10.8	14.2	-3.4	24.7	19.7	5.0	
Ever worked (%)	63.6	63.4	0.3	66.8	78.2	-11.5	†
Sample size (total = 697)	173	164		180	180		
Towards Employment							
Total earnings ($)	18,762	18,061	701	28,319	26,344	1,975	
Earned $45,000 or more (%)	12.8	13.2	-0.4	26.5	20.4	6.1	
Ever worked (%)	64.2	66.2	-2.0	80.3	76.0	4.2	
Sample size (total = 698)	168	177		181	172		

SOURCE: MDRC calculations using National Directory of New Hires data.

NOTES: WA = WorkAdvance.

The early cohort comprises all individuals who were randomly assigned through Quarter 3, 2012. The late cohort comprises all individuals who were randomly assigned in or after Quarter 4, 2012.

Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Differences between subgroups were tested for statistical significance. These statistical significance levels (Sig.) are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

Appendix Table A.8. Impacts on Employment and Earnings in Years 7 to 10 for Subgroups Defined by Race and Ethnic Group, Among the Pooled Sample

Outcome	Hispanic, Latino, or Spanish			Black, non-Hispanic			White, non-Hispanic			Sig
	WorkAdvance group	Control group	Difference (Impact)	WorkAdvance group	Control group	Difference (Impact)	WorkAdvance group	Control group	Difference (Impact)	
Total earnings ($)										
Year 7	36,066	30,106	5,961 **	26,693	23,780	2,913 **	22,642	22,683	-41	
Year 8	37,056	30,342	6,714 **	26,463	23,690	2,772 **	22,051	20,845	1,205	
Year 9	37,371	31,389	5,982 *	26,747	23,692	3,054 **	22,462	20,859	1,603	
Year 10	42,322	37,610	4,712	29,121	26,596	2,525	23,744	23,980	-236	
Earned $45,000 or more (%)										
Year 10	46.5	39.7	6.8	27.0	23.2	3.8	21.7	21.5	0.2	
Ever worked (%)										
Year 7	84.3	79.2	5.1	81.9	80.3	1.6	70.3	78.9	-8.5 **	††
Year 8	83.6	77.2	6.4	76.7	76.8	-0.1	66.5	73.3	-6.7	†
Year 9	78.1	76.1	2.0	75.5	74.3	1.2	64.2	65.7	-1.5	
Year 10	84.3	78.3	6.0	73.1	73.8	-0.7	62.1	67.4	-5.3	
Sample size (total = 2,180)	211	216		655	630		235	233		

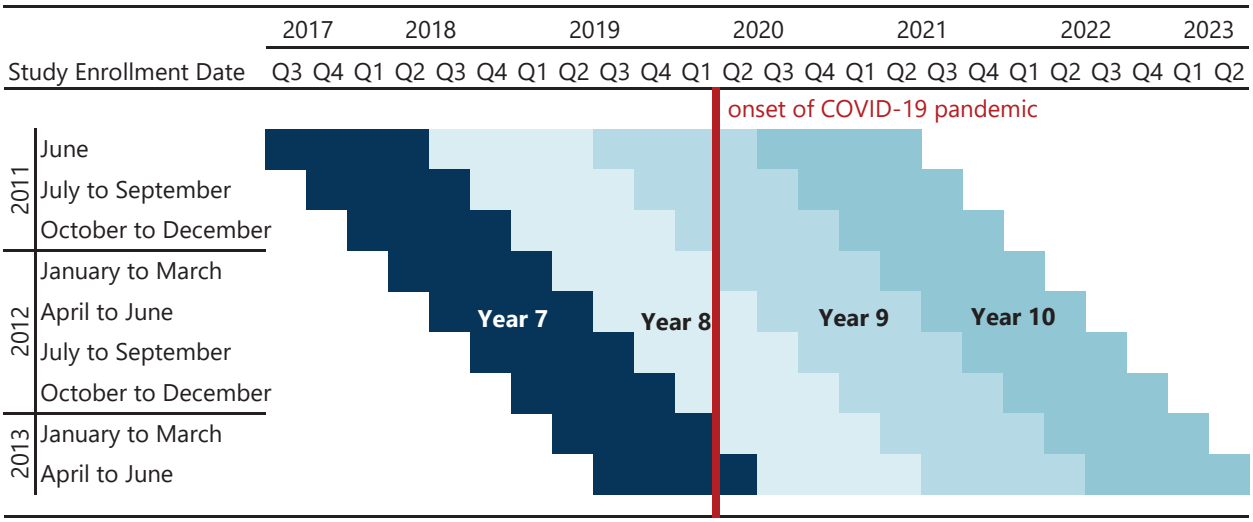
SOURCE: MDRC calculations using National Directory of New Hires data.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Differences between subgroups were tested for statistical significance. These statistical significance levels (Sig.) are indicated as follows: ††† = 1 percent; †† = 5 percent; † = 10 percent.

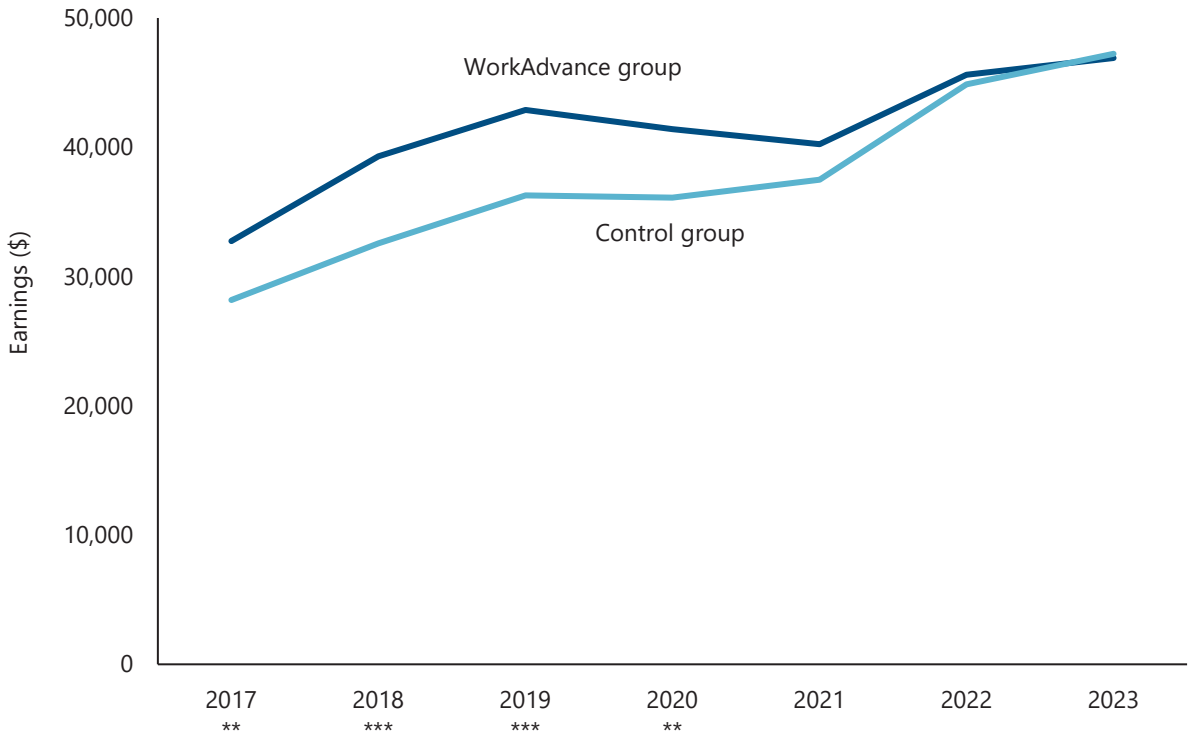
Rounding may cause slight discrepancies in sums and differences.

Appendix Figure A.1. Calendar Years Covered in the WorkAdvance 10-Year Follow-Up Study, by Study Enrollment Date



SOURCE: MDRC calculations using the WorkAdvance baseline information form.

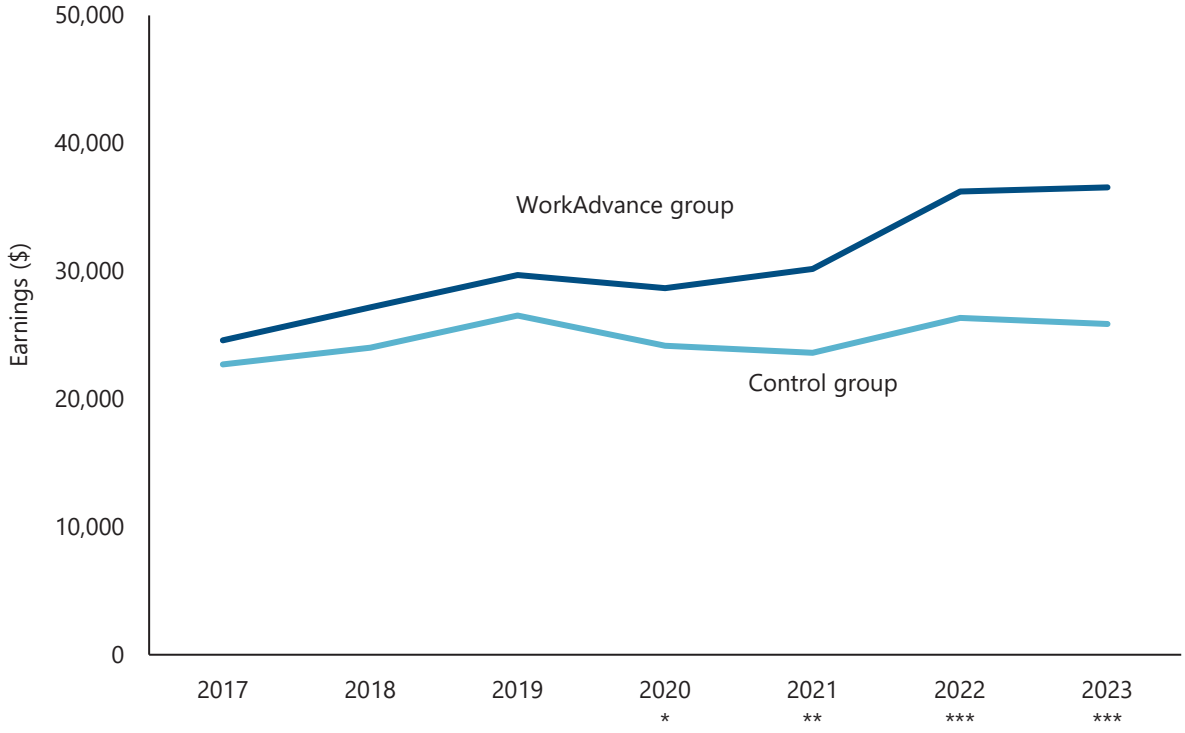
Appendix Figure A.2. Per Scholas Impacts on Annual Earnings, 2017 to 2023



SOURCE: MDRC calculations using National Directory of New Hires (NDNH) data.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
For 2023 earnings, MDRC only had access to NDNH data for Quarter 1 and Quarter 2. Annual earnings were calculated by multiplying the combined Quarter 1 and Quarter 2 earnings by two.

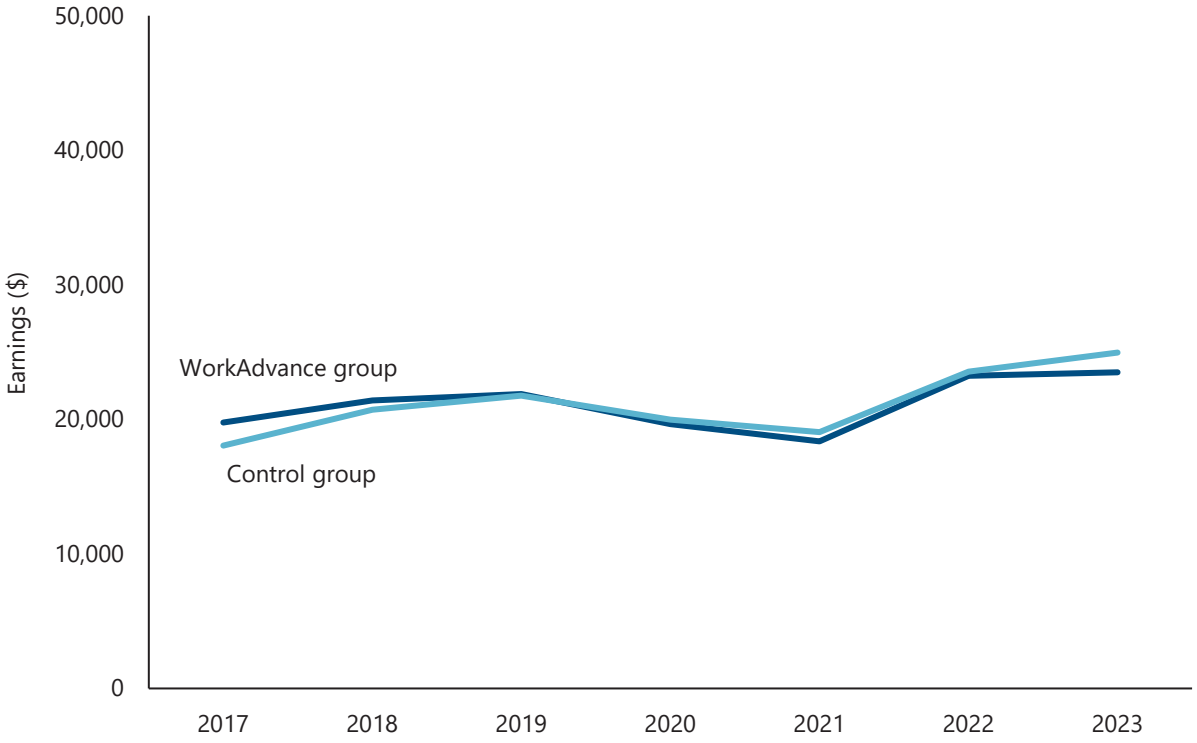
Appendix Figure A.3. St. Nicks Alliance Impacts on Annual Earnings, 2017 to 2023



SOURCE: MDRC calculations using National Directory of New Hires (NDNH) data.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
For 2023 earnings, MDRC only had access to NDNH data for Quarter 1 and Quarter 2. Annual earnings were calculated by multiplying the combined Quarter 1 and Quarter 2 earnings by two.

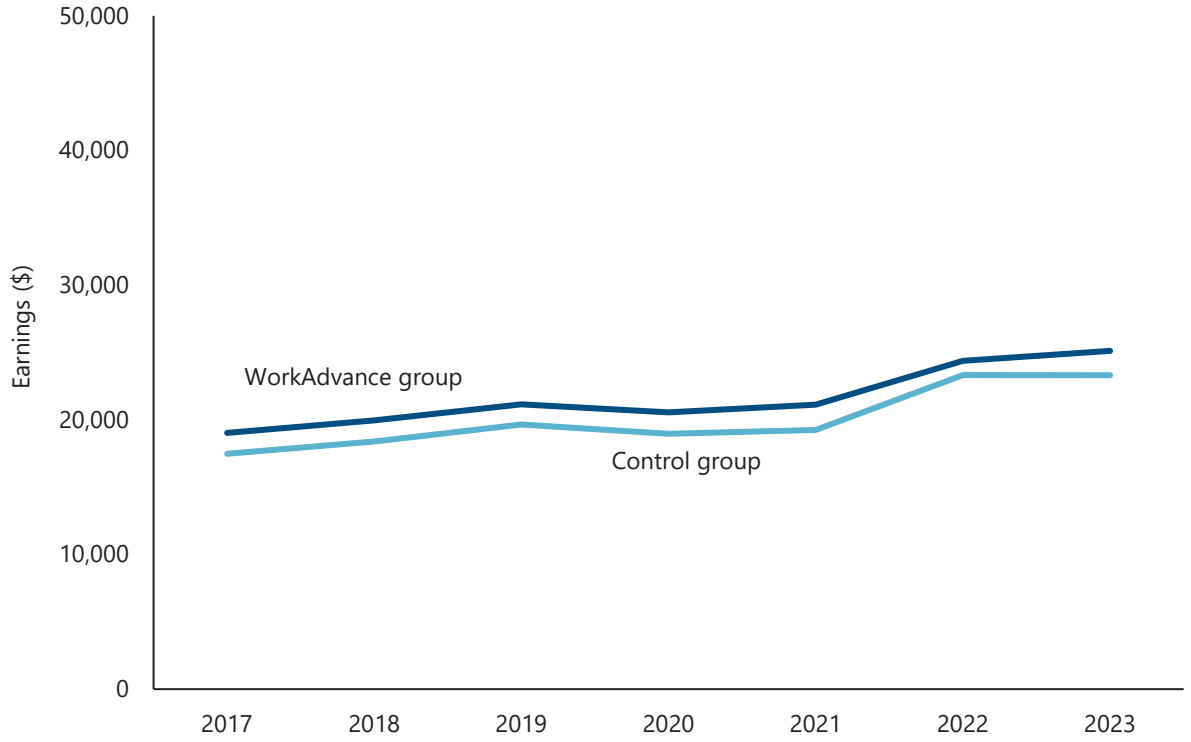
Appendix Figure A.4. Madison Strategies Group Impacts on Annual Earnings, 2017 to 2023



SOURCE: MDRC calculations using National Directory of New Hires (NDNH) data.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
For 2023 earnings, MDRC only had access to NDNH data for Quarter 1 and Quarter 2. Annual earnings were calculated by multiplying the combined Quarter 1 and Quarter 2 earnings by two.

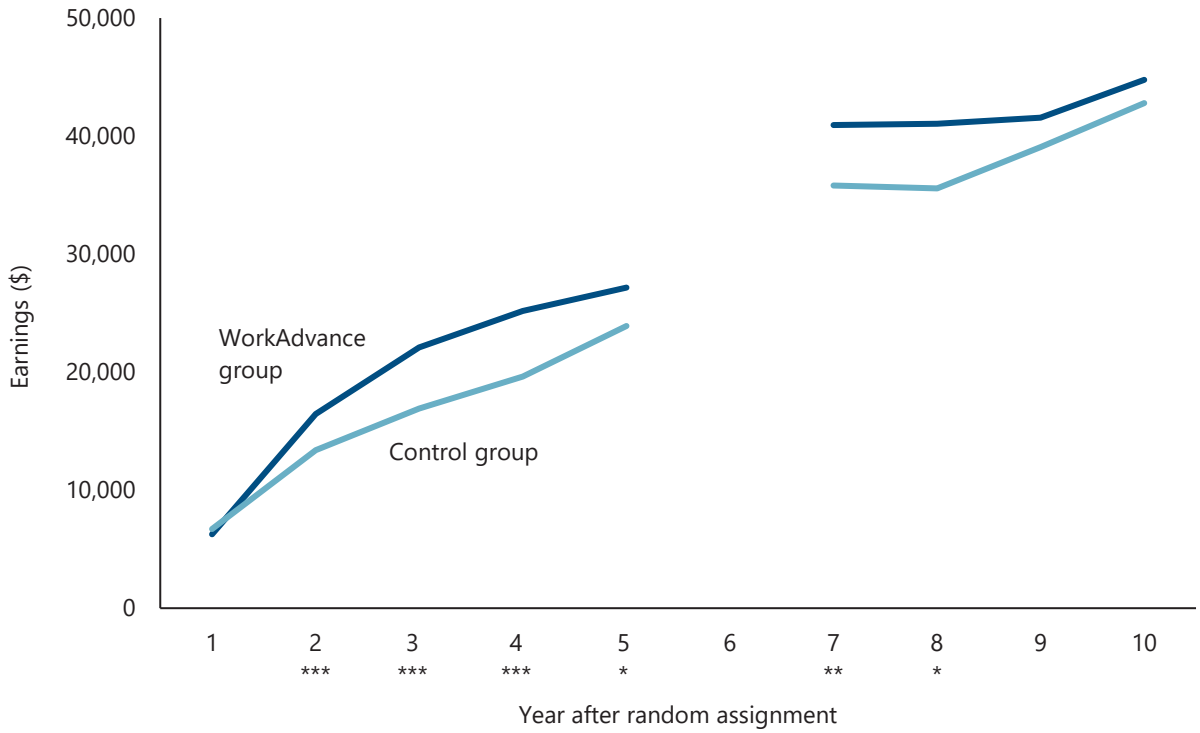
Appendix Figure A.5. Towards Employment Impacts on Annual Earnings, 2017 to 2023



SOURCE: MDRC calculations using National Directory of New Hires (NDNH) data.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
For 2023 earnings, MDRC only had access to NDNH data for Quarter 1 and Quarter 2. Annual earnings were calculated by multiplying the combined Quarter 1 and Quarter 2 earnings by two.

Appendix Figure A.6. Per Scholas Impacts on Annual Earnings, Years 1 to 10



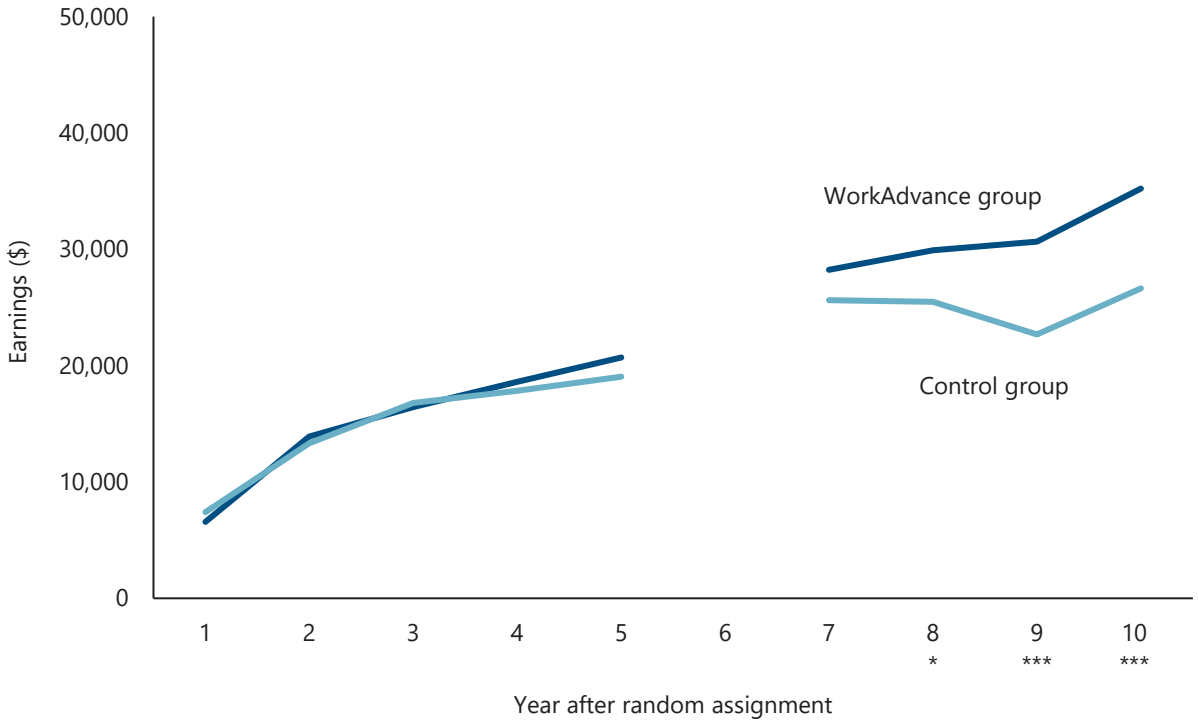
SOURCES: MDRC calculations using New York State Department of Labor unemployment insurance (UI) wage data and National Directory of New Hires (NDNH) data.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Earnings outcomes for Years 1 to 5 are based on state UI wage data, while outcomes for Years 7 to 10 are based on NDNH data. There is a slight mismatch between the types of employment that were reported in the two data sources. The UI wage data cover employment only in that state, while the NDNH data cover employment in all states. The NDNH data include all the employment types that appear in the UI wage data, as well as self-employment (in some states), federal employment, and military employment. Because of these differences, total earnings in Years 7 to 10 are expected to be slightly inflated in comparison with those calculated using the earlier UI wage data, but this change is probably small and also probably affects both research groups comparably.

The gap in the chart represents the period where complete data were not available for the full sample.

Appendix Figure A.7. St. Nicks Alliance Impacts on Annual Earnings, Years 1 to 10



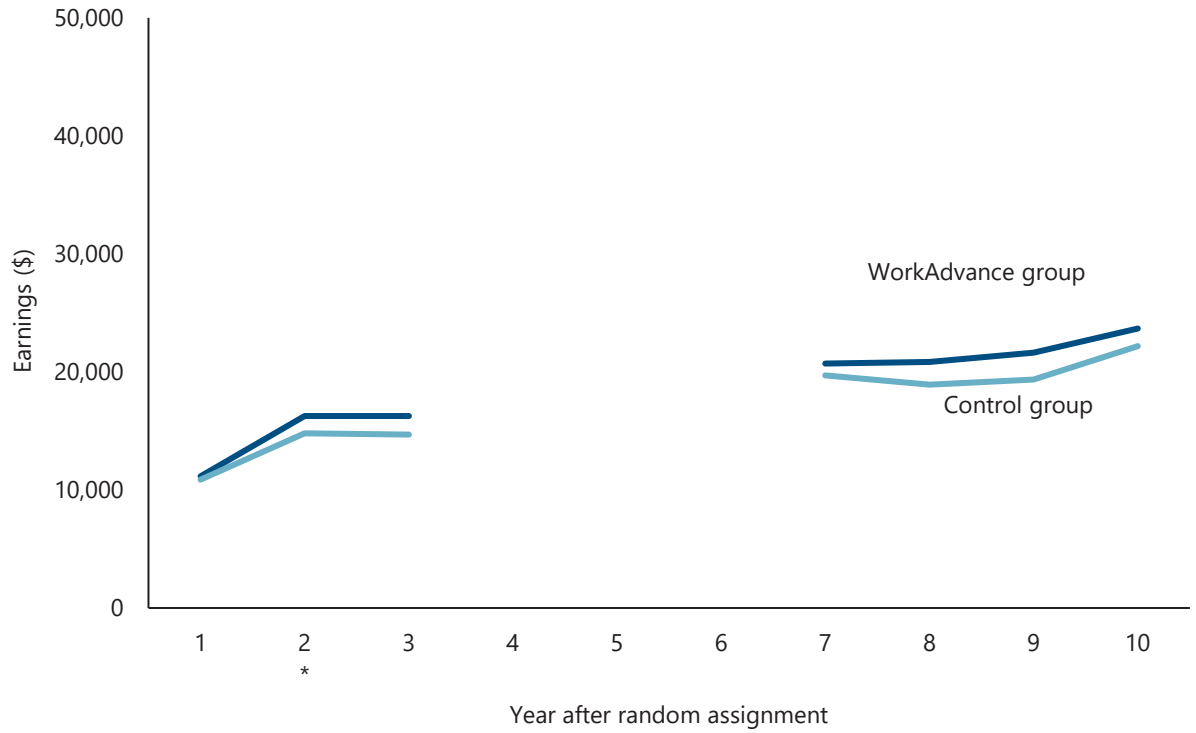
SOURCES: MDRC calculations using New York State Department of Labor unemployment insurance (UI) wage data and National Directory of New Hires (NDNH) data.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Earnings outcomes for Years 1 to 5 are based on state UI wage data, while outcomes for Years 7 to 10 are based on NDNH data. There is a slight mismatch between the types of employment that are reported in the two data sources. The UI wage data cover employment only in that state, while the NDNH data cover employment in all states. The NDNH data include all the employment types that appear in the UI wage data, as well as self-employment (in some states), federal employment, and military employment. Because of these differences, total earnings in Years 7 to 10 are expected to be slightly inflated in comparison with those calculated using the earlier UI wage data, but this change is probably small and also probably affects both research groups comparably.

The gap in the chart represents the period where complete data were not available for the full sample.

Appendix Figure A.8. Madison Strategies Group Impacts on Annual Earnings, Years 1 to 10



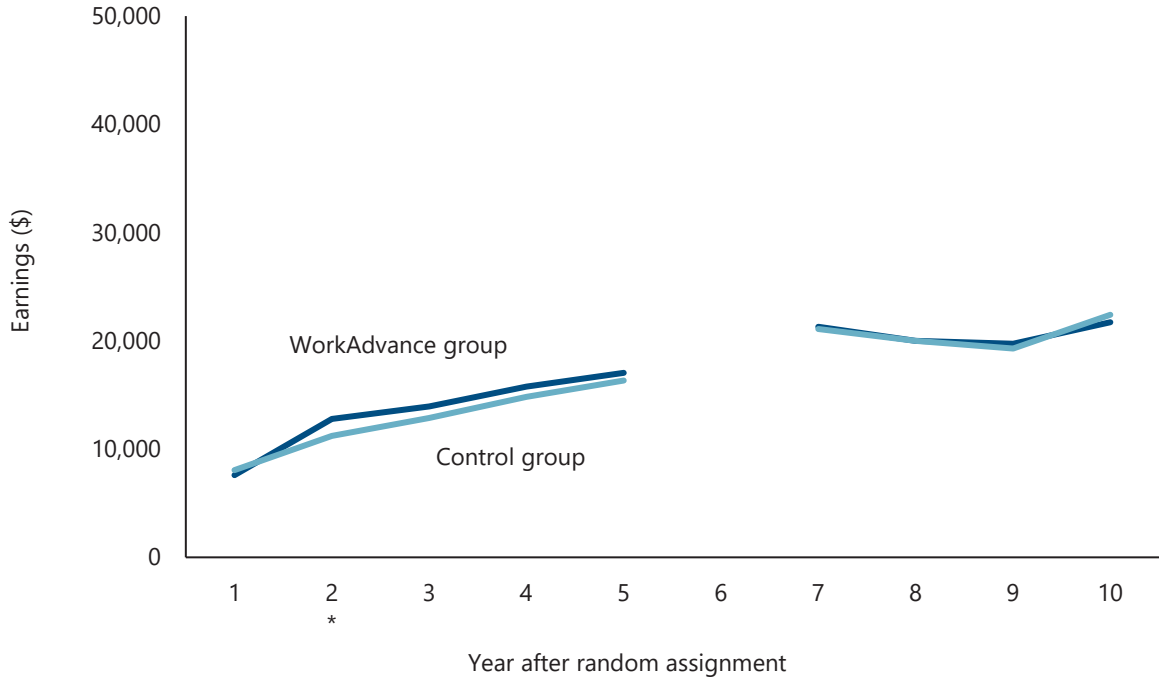
SOURCES: MDRC calculations using Oklahoma Employment Security Commission unemployment insurance (UI) wage data and National Directory of New Hires (NDNH) data.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Earnings outcomes for Years 1 to 3 are based on state UI wage data, while outcomes for Years 7 to 10 are based on NDNH data. There is a slight mismatch between the types of employment reported in the two data sources. The UI wage data cover employment only in that state, while the NDNH data cover employment in all states. The NDNH data include all the employment types that appear in the UI wage data, as well as self-employment (in some states), federal employment, and military employment. Because of these differences, total earnings in Years 7 to 10 are expected to be slightly inflated in comparison with those calculated using the earlier UI wage data, but this change is probably small and also probably affects both research groups comparably.

The gap in the chart represents the period where complete data were not available for the full sample.

Appendix Figure A.9. Towards Employment Impacts on Annual Earnings, Years 1 to 10



SOURCES: MDRC calculations using Ohio Department of Jobs and Family Services unemployment insurance (UI) wage data and National Directory of New Hires (NDNH) data.

NOTES: Statistical significance levels are indicated as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Earnings outcomes for Years 1 to 5 are based on state UI wage data, while outcomes for Years 7 to 10 are based on NDNH data. There is a slight mismatch between the types of employment reported in the two data sources. The UI wage data cover employment only in that state, while the NDNH data cover employment in all states. The NDNH data include all the employment types that appear in the UI wage data, as well as self-employment (in some states), federal employment, and military employment. Because of these differences, total earnings in Years 7 to 10 are expected to be slightly inflated in comparison with those calculated using the earlier UI wage data, but this change is probably small and also probably affects both research groups comparably.

The gap in the chart represents the period where complete data were not available for the full sample.

APPENDIX

B

Methodology for Measuring Cumulative Earnings Over 10 Years

Box 1 presents an analysis of a 10-year cumulative earnings measure that captured the sum of average yearly earnings from all 10 years of the WorkAdvance follow-up period. While this should be a straightforward outcome to create, the research team members encountered several data limitations that required them to make adjustments and assumptions.

CHANGE IN DATA SOURCE

In Years 1 to 5, MDRC used state unemployment insurance (UI) wage data to measure earnings. These data only capture the earnings of individuals who were employed in the same state that their WorkAdvance training was held. For Years 7 to 10, MDRC had access to earnings data from the National Directory of New Hires (NDNH), which covers the employment of individuals who worked in any state.

As expected, average earnings in the NDNH data are higher than average earnings in the state UI data. For three of the programs, the research team calculated the ratio of average earnings — as captured in the state UI data versus NDNH data — for the eight quarters in which it had data from both sources. Appendix Table B.1 shows these average ratios, calculated separately among the WorkAdvance and control groups and then averaged across the two groups. Earnings outcomes in Years 1 to 5 (based on state UI data) were then multiplied by these ratios to estimate the earnings amounts if they had been based on data capturing employment nationally.

Appendix Table B.1. Ratio of Earnings Amounts as Estimated Using State UI Data and NDNH Data

Program	WorkAdvance Group	Control Group	Average
Per Scholas	1.15	1.15	1.15
St. Nicks Alliance	1.17	1.17	1.17
Towards Employment	1.09	1.07	1.08
Average	1.14	1.13	1.13

SOURCES: MDRC calculations using state unemployment insurance wage data and National Directory of New Hires data.

NOTE: UI = unemployment insurance; NDNH = National Directory of New Hires.

MISSING EARNINGS DATA

For three of the programs, earnings data were missing for two quarters in Year 6 (after the coverage period for the state UI data ended and before the coverage period for the NDNH

data began). Earnings in these quarters were imputed by taking equal increments between the average earnings in the last quarter of the adjusted state UI data and the first quarter of the NDNH data.

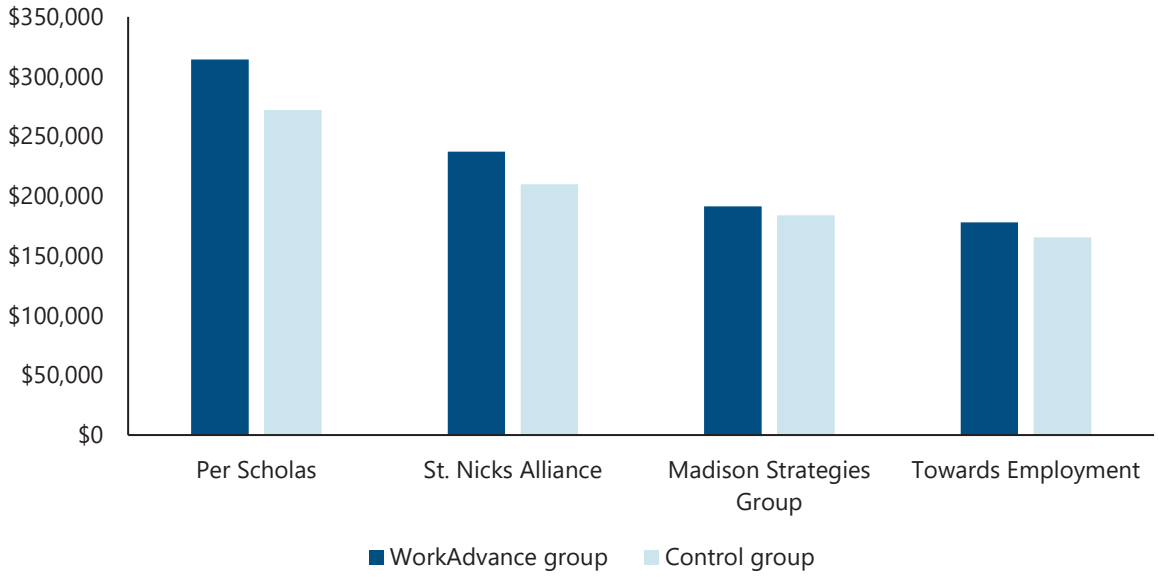
ADDITIONAL LIMITATIONS FOR MADISON STRATEGIES GROUP

For Madison Strategies Group, state UI data was only available through Year 3—so the research team did not have access to any overlapping quarters between state UI data and NDNH data and was missing twelve quarters of earnings data. To overcome this issue, the research team (1) multiplied the existing UI state data by the average ratio of the three other WorkAdvance programs and (2) imputed the twelve quarters of missing earnings using the same method it used to impute the two quarters of data in the other programs.

CUMULATIVE EARNINGS OUTCOME

After these adjustments, average cumulative earnings for each research group and program were calculated by summing the adjusted state UI quarterly earnings amounts in the beginning of the follow-up period, the imputed earnings amounts in interim quarters, and the quarterly NDNH earnings amounts at the end of the follow-up period. These amounts are shown in Appendix Figure B.1.

Appendix Figure B.1. Cumulative Earnings in the 10 Years Since Entering the WorkAdvance Study, by Program and Research Group



SOURCES: MDRC calculations using state unemployment insurance administrative records from the New York State Department of Labor (for people at Per Scholas and St. Nicks Alliance), the Ohio Department of Jobs and Family Services (for people at Towards Employment), the Oklahoma Employment Security Commission (for people at Madison Strategies Group), and the National Directory of New Hires.

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MDRC, a nonprofit, nonpartisan social and education policy research organization, is committed to finding solutions to some of the most difficult problems facing the nation. We aim to reduce poverty and bolster economic mobility; improve early child development, public education, and pathways from high school to college completion and careers; and reduce inequities in the criminal justice system. Our partners include public agencies and school systems, nonprofit and community-based organizations, private philanthropies, and others who are creating opportunity for individuals, families, and communities.

Founded in 1974, MDRC builds and applies evidence about changes in policy and practice that can improve the well-being of people who are economically disadvantaged. In service of this goal, we work alongside our programmatic partners and the people they serve to identify and design more effective and equitable approaches. We work with them to strengthen the impact of those approaches. And we work with them to evaluate policies or practices using the highest research standards. Our staff members have an unusual combination of research and organizational experience, with expertise in the latest qualitative and quantitative research methods, data science, behavioral science, culturally responsive practices, and collaborative design and program improvement processes. To disseminate what we learn, we actively engage with policymakers, practitioners, public and private funders, and others to apply the best evidence available to the decisions they are making.

MDRC works in almost every state and all the nation's largest cities, with offices in New York City; Oakland, California; and Washington, DC.