Implementation Lessons for Practitioners from the TechHire and SWFI Randomized Controlled Trial

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January 2022

The H-1B visa program, established in 1990 by Congress, allows employers to hire individuals from outside the United States to work in "specialty occupations" (such as science, technology, engineering, mathematics, health care, business, financial services, or life sciences) on a temporary basis. In 1998, a user fee was added to fund scholarship and training programs that develop the skills of the existing U.S. workforce in high-demand fields that employ large numbers of H-1B workers. Those fees have underwritten more than $1 billion in technical skills training programs managed by the U.S. Department of Labor (U.S. DOL) and designed to reduce or replace the need for hiring skilled labor from other countries.

Two grant programs funded through this authority and administered by the U.S. DOL, launched in 2015 by President Barack Obama, were H-1B TechHire Partnership Grants (TechHire) and the Strengthening Working Families Initiative (SWFI).[1] These grant programs were designed to provide funding, through a competitive application process, for programs that would make training more accessible to individuals who might otherwise experience barriers to training and employment; provide support services that address the unique and varied challenges these individuals face; and offer a range of strategies, including accelerated training and online options, to address skills deficits. These local programs were expected to prepare individuals for well-paying middle- and high-skilled jobs in high-growth H-1B industries. In particular, TechHire was aimed at young adults ages 17 to 29, and SWFI was aimed at custodial parents of any age who had children age 13 or under.[2] Additionally,

Study Background

This brief highlights key findings from the implementation of the TechHire and Strengthening Working Families Initiative (SWFI) programs and offers considerations for practitioners. The programs provided training for high-tech jobs as well as support services to people with barriers to training and employment. Presented especially for a practitioner audience and derived from a rigorous evaluation, including visits to TechHire and SWFI programs, interviews with staff members, and a review of program participation data, the brief describes staff members' experiences of facilitators and challenges related to recruiting for these types of training programs and delivering a range of services, including technical skills training, case management, support services, child care assistance, and job placement and other post-training services. The brief offers considerations for practitioners involved in planning or implementing similar programs.

SWFI program grantees were expected to undertake activities with key stakeholders across the child care, workforce, and human services systems to streamline access to child care for disadvantaged workers.

The opportunity to develop such programs and apply for TechHire and SWFI grants was open to partnerships consisting of workforce agencies, education and training providers, and business-related nonprofit organizations. In June 2016, the U.S. DOL Employment and Training Administration awarded 39 TechHire grants providing services in 25 states

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[1] Both TechHire and SWFI are authorized under Section 414(c) of the American Competitiveness and Workforce Improvement Act of 1998.

[2] Full eligibility requirements were as follows: TechHire applicants had to be young adults ages 17 to 29 with barriers to training and employment or were members of special populations defined as individuals with disabilities, limited English proficiency, or criminal records. SWFI applicants had to be low- to middle-skilled custodial parents, who were eligible to work in the United States, and had at least one dependent who was age 13 or younger or at least one dependent with a disability or developmental delay who might be older than 13 years of age. All H-1B grants require participants to be at last 17 years of age and out of secondary school, per the requirements of the American Competitiveness and Workforce Improvement Act of 2018.

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and 14 SWFI grants providing services in 13 states. In September 2016, the U.S. DOL Chief Evaluation Office awarded Westat, with MDRC, a contract to conduct an evaluation of the 53 TechHire and SWFI programs.

This brief is based on lessons from one element of that evaluation: a randomized controlled trial (RCT) of a small subset of the 53 TechHire and SWFI programs—three TechHire programs and two SWFI programs—that explored the implementation and short-term impacts of TechHire and SWFI. In particular, this brief focuses on findings from the implementation analysis that was part of the RCT; data sources for the implementation analysis included observations of TechHire and SWFI programs, interviews with staff members, and a review of program participation data.

The implementation analysis explored broad research questions about how the programs were implemented and what factors facilitated or inhibited implementation. Additionally, it aimed to uncover practices the programs put in place that could help explain increased partic- ipation in and completion of training, and eventually increased employment and earnings, relative to what would have happened in the absence of the programs. Specifically, the implementation analysis examined (1) how each of the five programs in the RCT was imple- mented, whether and why implementation practices changed over time, how the training and services deliv- ered by the program compared with those originally con- ceived in the grantee's application, and how the TechHire and SWFI programs might differ from other programs available to potential TechHire and SWFI enrollees; (2) the extent to which various services were received by the pro- gram group; and (3) the contrast in service use between the program and control groups. Limitations of the RCT include the small sample sizes, the generalizability of findings to the broader group of 53 TechHire and SWFI programs and other similar training programs, and the short follow-up period for the current report. Additionally, findings from the implementation analysis are sugges- tive about what could be driving impacts, but they are not definitive.

The five programs participating in the RCT were East Coast Florida TechHire (led by Daytona State College, with partners Eastern Florida State College and Florida State College at Jacksonville), New York City TechHire (LaGuardia Community College), Tampa TechHire (Career- Source Tampa Bay), Denver SWFI (Community College of Aurora and Community College of Denver), and Vermont SWFI (Vermont Technical College). The programs offered training in a mix of information technology (IT), advanced manufacturing, and health care, and were varied in their geographic context, staffing structures, other services offered, and strategies for delivering services.

Recruitment

Recruiting individuals who met the TechHire and SWFI program eligibility requirements, could benefit from the training and related services, and could be successful in the programs, was a challenge. The reasons cited by pro- gram staff included generally low unemployment rates that made people less interested in training, the relatively high skill levels needed for some of the training, and a lack of dedicated recruitment staff, discussed in more detail below. Getting the word out to the right people and in the right places was seen as a critical first step toward reaching enrollment goals. As one TechHire staff member noted, "[We] focused everything on recruiting, because we don't have a program if we don't have students." Three key methods of outreach and recruitment that staff across the programs reported were successful for both TechHire and SWFI included partnerships with other organizations to encourage referrals; direct recruitment, such as going to job fairs and Head Start centers; and social media and advertising.

Partnerships to encourage referrals

Community outreach and networking within both the immediate and broader community proved to be one of the most successful tactics for recruiting eligible appli- cants, and was the outreach strategy that program staff members touted the most. They built on relationships they already had and also established (and then main- tained) new relationships to develop sources for referrals.

Staff from one TechHire program and one SWFI pro- gram reported that they networked within their college or workforce agency, meeting with colleagues they already knew who might be able to help them find eligible and interested applicants. They also made sure that relevant staff in all college or agency departments were informed about and reminded of the TechHire and SWFI program offerings; at one college, that included advisors and instructors who were working on various programs or ini- tiatives that served students who might meet the TechHire or SWFI eligibility criteria. Other contacts included the local workforce agency (for the four programs based in community colleges), where potentially eligible individuals might be seeking services; college "student life" offices that posted flyers on bulle- tin boards and arranged for TechHire and SWFI staff to attend events where they could introduce the programs to potential applicants; and program alumni, who could provide connections with other organizations such as professional associations with which they were involved. One program staff member had this suggestion for other organizations implementing a similar program:

> "Make sure there's buy-in from all parties involved on campus. Make sure everyone's on the same page with you. Running a modern tech prep program, you need buy-in and support from everyone, from IT all the way up to the president."

Building and sustaining connections within the broader community—key individuals in nonprofit and community-based organizations, government agencies, faith groups, and local employers and businesses—were said by program staff to be very helpful in finding applicants and developing a pipeline of referrals. Those community partners might already have had some information about the program, and sent clients to apply. One TechHire/SWFI staff person said that when their program started, there weren't many connections to potential referral organizations. But as the connections grew, more people began applying and word about the program spread. Staff members intensified their efforts to connect with these referral organizations and continued to find new ones. Another TechHire/SWFI staff person emphasized the importance of maintaining good communication with key staff members at these referral organizations—keeping them engaged and finding ways to help them in return. This not only helped TechHire/SWFI staff conduct outreach, but also helped them maintain those relationships for future programs and hiring. Staff at several TechHire/SWFI programs emphasized the importance of meeting with their local contacts and community partners on a regular basis. One TechHire/SWFI program staff member observed that their partners did so much for them and the program wanted to make sure the relationships remained strong: "Effective networking was the key to success.... Having a presence in the community."

Direct recruitment

Some TechHire/SWFI staff members went into their communities and looked for eligible applicants, rather than waiting for applicants to come to them. Staff reported feeling that direct recruitment could potentially ensure that their programs reached their target audience and achieved recruitment goals.

SWFI strategies included going to Head Start centers to talk directly with parents. TechHire programs that offered IT training sent staff to recruit at technology-focused events, or hosted events through services like MeetUp to find people who already had backgrounds or an interest in technology. Program staff also made a point of asking applicants about their interest in the industry that would be the focus of their training, to ensure that they were not only eligible but also genuinely interested and therefore more likely to succeed in the program.

Staff members at several programs emphasized attending events like job fairs to get both enough applicants as well as an array of applicants, and discussed the importance of knowing the community well and attending local events.

Social media and advertising

Program staff members put up flyers at local shopping and recreation areas, libraries, and eateries such as cafés, bars, and restaurants, where potentially eligible young adults tended to congregate. Program staff also tested different forms of media to market each program, such as geofencing (ads that pop up on social media when a mobile device enters certain locations, such as on or near a college campus), hosting Facebook Live informational events, posting in various Facebook hiring groups and on LinkedIn, and posting ads on local television and radio stations. A few program staff members also stressed the importance of word-of-mouth as a tried-and-true way to appeal to new applicants, especially when it came from program alumni or current students. "When [we] contact one person, we reach the entire family. There's a social aspect to outreach," one staff member said.

TechHire/SWFI program staff emphasized the importance of using messaging and marketing tactics appropriately tailored to the target population. Messaging that stated that the training could fit into anyone's schedule was seen as effective by staff members, resonating with applicants who were currently working but were underemployed in jobs without much room for growth. Offering self-paced, completely virtual training (even before the COVID-19 pandemic) as well as evening and weekend classes appealed to people who were already working full time at more regular hours.

One staff member described their program as a two-way street, telling applicants, "This is what we can do for you," to emphasize the benefits potential students could receive, but also clearly communicating that students must put in the required work. Staff at one program tried to make their messaging more relatable by making their marketing images more representative of the population they were serving, instead of showing videos of famous tech CEOs to advertise the IT training.

Several program staff also recommended using agency or college in-house marketing departments, if possible, because those departments were often very familiar with the constituents the programs served and knew how best to reach them. This also saved time and resources.

One staff person emphasized using the budget for marketing efficiently, so there was good branding and a good social media presence, as well as working with program alumni who could talk about their experiences to potential applicants.

The biggest challenge program staff encountered with recruitment was being short-staffed. Recruitment and intake was a challenge for the small teams working on these programs, and it was difficult for some program staff to get to events outside of the college campus or agency because of understaffing. *Prioritizing adequate staffing for recruitment and marketing would be important, some staff members said, if they were to implement a similar program again.*

Training

One of the biggest challenges of the TechHire/SWFI program was training people with relatively low skill levels for high-skilled, high-tech jobs, and in a relatively short period of time.[3] This challenge had implications for all elements of the program: recruitment, delivery of training, the need for strong case management support, and job placement. Program staff from all five programs reported that their employer partners told them their positions required people with higher skill levels. However, three of the five TechHire/ SWFI programs in the RCT were essentially designed to train individuals for more entry-level jobs within high-tech industries. The hope among at least some staff members was that getting an entry-level job in these industries would set participants up for moving into higher-level jobs in the future. Some staff also thought it was easier to train individuals with lower skills for more entry-level jobs. However, staff from those three programs acknowledged that entry-level jobs in these industries were drying up, so this might not be an effective way to move TechHire and SWFI graduates into well-paying, high-growth positions.

A bootcamp approach

New York City TechHire was one of the programs in the RCT that did train students for high-skilled jobs—in IT, including web development and networking. The program's model was different from all others in the study, in that it included a two-week, bootcamp-style "vestibule" period that took place before the main part of the training began. This gave students the time to show the program staff that they could persist and progress through the challenging training content. All staff who spoke about the vestibule model believed it worked

well because it also gave students the chance to establish a cohort and form connections with each other before moving on to the main training, some of which was online only (even prior to the COVID-19 pandemic). One of the instructors described the first week:

> **"The first four days, I'm cramming in as much as I can. Students get a taste. It's fast—[like] what will happen in formal training. It's skeletal—I don't dive deep, which gives students a chance to learn how to learn and ask questions."**

During the two-week vestibule period, instructors and students discussed career exploration and preparation, workplace culture, expectations for training and careers in tech, and what the experience of becoming a web developer could entail. The career-readiness and exploration discussions included a focus on soft skills such as time management and staying up-to-date on assignments. As one staff member observed, "Going to a bootcamp doesn't mean you know how to interview for a tech-related job." Students also discussed topics such as the kinds of employers they would be looking for, the different skill sets needed for those positions, and what their careers in the tech field might look like in five years or more.

New York City TechHire staff members strongly supported this model and said giving students the chance to establish social bonds with each other and discuss their future careers created a foundation for a successful program. However, staff members also acknowledged that the screening required to enroll students who would thrive in such a demanding program was quite rigorous. In fact, some students learned from participating in the vestibule period that the program was going to be too challenging for them and they ended up screening themselves out and not continuing with the training. While one result of the screening and the vestibule trial period was a cohort that would be more likely to succeed in the TechHire program, data from the evaluation showed that many students who proceeded with the training were starting with higher levels of education, on average, than many participants in the other TechHire/SWFI programs.[4]

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[3] Training programs generally ranged from one week to six months, though one program could extend through four semesters if the entire program was completed.

[4] *Training for High Tech Jobs: Implementation and Early Impacts from the TechHire and Strengthening Working Families Initiative Randomized Controlled Trial*, forthcoming.

Still, New York City TechHire staff members emphasized the value of the program, which was aimed at preparing largely young adults of color for careers in the burgeoning field of IT, where they were noticeably underrepresented. One goal was to diversify the tech workforce—something that an increasing number of tech companies are hoping to achieve. Program managers knew that getting a job in the technology field would be a long-term process for these students. They wanted to take a group of students who had not been exposed to a professional work environment, place them in a rigorous training program that simulated that environment, and identify the supports they needed to be successful once they got there.

Advanced manufacturing, noted a TechHire staff member at another program in the RCT, was also an expanding, high-demand industry. Training for the Certified Production Technician (CPT) certificate at this program was intended to prepare students for higher-level jobs and included earning several shorter-term certificates along the way to receiving the CPT credential. However, a staff member reported that most of the students in that program only completed one of the shorter-term certificates, which led to entry-level positions, and did not stay to complete the full CPT credential. One staff member acknowledged that the main challenge throughout the duration of the program was the state's low unemployment rate. Trainees could find a job easily and earn $15 per hour—substantially more than the minimum wage. Program staff felt that people did not want to commit to training when they could start earning money at a job right away.

The TechHire/SWFI programs were intended to train people for high-skill, high-tech jobs in a short period of time, yet the experiences described by various staff members demonstrated how difficult this could be. *Organizations contemplating similar programs may want to consider creative ways to provide students with more built-in supports so they can be successful in training that requires a higher level of skill than they currently have.* This also suggests the important role of case management and job placement services to support students in a challenging training environment, so they can complete a program and start their high-tech careers. Without sufficient support, some students may struggle in these programs, hindering their chances for advancement, or programs may screen out individuals who could benefit from them.

Case Management and Support Services

Tasking one or more staff members with providing case management for students was often what made the difference in a TechHire/SWFI program, and set it apart from

comparable training programs, according to staff members from across the programs. Case managers made clear to students that they were always available. They contacted students regularly, monitored their class attendance, and helped them access support services relevant to their situations. At some programs, if a case manager became aware that a student was missing class, the case manager would reach out to the student immediately to assess what was happening.

One case manager noted that check-ins with students sometimes operated "like therapy sessions," and that this attention and encouragement was often critical to a student's success in the program.

Strategies that staff perceived as facilitating communication between case managers and students were regularly touted by staff as implementation successes. One program provided a cell phone to each student to help them stay connected. Others contacted students through social media when calling, texting, or emailing efforts were not fruitful. The ability to reach out to students if they were missing classes could be the difference between whether students were dismissed from the class or were able ultimately to complete their training. Said one staff member: "We can help them, but without communication, the school dismisses them, and we can't do anything about it."

Keeping caseload sizes small and assigning clear and separate sets of responsibilities among staff members allowed case managers to provide more substantive case management overall. Case managers at some TechHire/SWFI programs said they had caseloads that were too large to manage well and they often did not have time to send more than an occasional check-in email to their students. Besides asking the program to hire additional staff, overburdened case managers tried to ameliorate this situation by encouraging students to reach out on their own to communicate what their issues were. Case managers also struggled to serve their entire caseload if they performed a dual role—for example, if they had both case management and job placement responsibilities. Some noted that splitting up the roles—having a separate, dedicated job placement specialist—would have enabled them to provide more substantive case management.

TechHire/SWFI programs provided, or engaged partners in providing, a wide range of support services. These included housing and food assistance, mental health services, public transportation passes, gift cards for gas, rides to and from training, school books, refurbished laptops, internet access, job readiness skills training, general workplace skills instruction, employer connections, and clothes for interviews. Some programs did not offer the services or resources in-house, so they partnered with other organizations to make them available. In some

cases, programs were unable to provide support services because they lacked the financial resources to pay for them, so they secured funds from non-TechHire/SWFI grants or other sources.

Given the number of provider partners and services offered, it was important for programs to communicate clearly where students could find and receive these services. Staff members at one program noted that some students felt "shy" about using the services available to them, such as the food pantry and wellness center. To "break the stigma," staff members led tours of these facilities and explained the process for accessing these supports.

One program that did not promote available support services to students clearly and consistently experienced low use of these services, according to data provided by staff. "We can't advertise [the supports] generally, because then individuals who don't need the supports will get them," the program's case manager explained. As a result, she told students about the available supports during her first meeting with them; after that it was mostly up to the students themselves to request supports and provide the documentation required to receive them. The low use of support services in this program could mean that students were hesitant to request available supports on their own, suggesting that active encouragement from program staff members could be fruitful.

Another challenge of partnering with outside organizations was that students sometimes had to go off-campus to receive services. Said one program director, "Students are not likely to take advantage of a service if it is not very conveniently located." In fact, not providing all support services in the same location as the training may have contributed to fewer students using them. *Similar programs would likely benefit from providing services at the training location; however, should a program need to offer some services off-site, staff members might want to consider ways to encourage students to travel to those locations, such as providing gift cards for gas or a public transit pass.*

Child Care Services

The SWFI programs hoped to benefit from establishing a child care navigator staff position with the stated role of identifying child care options for students and helping them apply for available state, county, or local child care funding. Crucial to a child care navigator's success was being knowledgeable about a locale's available child care options and how to move through complex child care funding bureaucracies. However, even with competent

navigators to provide guidance, students' use of child care was minimal.[5]

Programs considered various remedies to address this. At one program, where SWFI classes tended to be at night—when formal child care availability was scarce—some staff hypothesized that scheduling classes during the day might enable students to make better use of formal child care options. When students experienced gaps between the application for and approval of child care subsidies, one SWFI program budgeted a child care emergency fund and provided these monies to students until their applications were approved. Additionally, nascent SWFI efforts to help informal family, friend, and neighbor child care providers, often used by students, to secure licensure showed promise. This would enable students to receive state, county, or local child care subsidies to pay for these arrangements. *Organizations contemplating similar child care navigation programs might want to consider these implementation adjustments.*

Finally, one SWFI program lamented the lack of guidance for how to improve data collection on students' child care circumstances. Program staff believed that they did not collect accurate information, particularly about students' use of informal family, friend, and neighbor providers, because some students did not think of or identify these individuals as "official" child care providers. Said one SWFI program staff member, "I would really encourage the feds to come up with some kind of guidance around how to collect the data and what data are the most important." *Going forward, stronger data collection practices could provide a more complete picture of students' child care arrangements, so programs can do a better job of adjusting services to meet students' needs.*

Job Placement and Other Post-Training Services

SWFI and TechHire programs benefited, or believed they would have benefited, from having a staff member dedicated both to supporting students in their job searches and to developing relationships with employers. Just one TechHire/SWFI program evaluated in the RCT had a dedicated job developer for the duration of its training program. Several other programs tasked case managers with dual roles of case management and job development. As noted earlier, these dual-role case managers said that they were overburdened and not able to provide robust case management, assist in job searches, and build relationships with employers. A dedicated job developer would remedy that problem, staff members said.

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[5] *Training for High Tech Jobs: Implementation and Early Impacts from the TechHire and Strengthening Working Families Initiative Randomized Controlled Trial*, forthcoming.

Knowledge of and responsiveness to the local labor market was central to a program's ability to place training graduates in jobs. Many programs reported that training instructors with industry connections were sometimes able to connect students with local employers during the job search process. But program staff members noted that relying on instructors to do this was not nearly as effective as having a dedicated staff member whose sole responsibility was to develop relationships with employers and match students to available jobs. Program staff were best able to develop strong relationships with employers when they made it clear that the relationship could be beneficial to both parties.

Staff members noted that many graduates were hired based on the staff's "personal connections" with employers. Several TechHire/SWFI staff members invited employers to make specific recommendations for a program's training curricula. The goal: Create a pipeline of program graduates whose training was more tailored to the particular needs of those employers. One employer complimented this approach: "They listen to their partner companies and really just pivot depending on what the companies are looking for."

Nonetheless, as discussed earlier, some TechHire/SWFI staff struggled to place graduates in high-skill, high-paying jobs because their programs were geared to offering more entry-level training. Staff members believed that work-based learning opportunities—such as internships or apprenticeships—would have given students practical experience that they could have put on their résumés and that would have made them more appealing candidates for middle-level positions. However, many programs struggled to set up these opportunities with employers. Though TechHire/SWFI programs did not report why employer partners were not especially interested in establishing work-based learning opportunities, they did report that it was easiest to engage employers who sent their own employees (that is, incumbent workers) for TechHire/SWFI training. Similar programs that want to engage employers to provide work-based learning opportunities may want to find ways to assure them that they will benefit directly from these arrangements.

Considerations for Practitioners

The ambitious goal of the TechHire and SWFI programs was to provide training for high-tech, high-wage jobs as well as support services for people with barriers to training and employment. Practitioners who are planning or operating programs with similar goals can learn from the experiences of the TechHire and SWFI programs.

Be prepared to offer substantial supports to students with low skill levels to help them be successful. Without such supports, many individuals who could potentially benefit from rigorous training programs might end up being screened out. Options include providing a bridge program to raise starting skill levels, tutoring to ensure that students can handle challenging technical content, one-on-one case management support to help students stay on track, and concrete financial and other services such as child care navigation to reduce barriers to participation. Programs will likely have to think creatively about how to provide or pay for such supports, in the absence of funding such as that provided through the TechHire and SWFI grants. Options might include developing partnerships with organizations that can provide support services, applying for grants, or, optimally, finding ways to using existing resources to pay for these supports.

Arrange for work-based learning opportunities with local employers to give students the opportunity to gain practical experience in their chosen fields and help them compete for higher-level positions. It is important for programs to articulate clearly to employers the benefits of participating, such as having access to a pipeline of qualified workers as well as training for incumbent workers that helps them develop additional, valuable skills.

Engage in multifaceted outreach efforts to recruit people who could benefit from and qualify for the program. Incorporate career preparation and exploration into the technical skills training, and create dedicated case management and job developer roles with reasonable caseload sizes.

Have staff members who are deeply knowledgeable about local child care options and how to navigate complex child care funding bureaucracies. Making training accessible to parents presents its own set of unique challenges. Addressing those challenges is critical to providing the support that parents need.

Emerging from these implementation experiences is one clear theme: A successful training program of this kind is not a one-size-fits-all operation. Rather, different contexts necessitate program elements to be structured complementarily. Besides considering the preceding operational lessons, practitioners would be well served by considering

the settings of their programs, particularly the realities and needs of the target population, the local labor market, and the practitioners' available resources and ability to provide program services.

Future reports based on up to three years of follow-up will assess the extent to which the mix of TechHire and SWFI training courses, case management, and support services helped workers with limited skills increase their employment and earnings over and above what they would have achieved in the absence of these programs. The RCT will also examine whether these programs led participants to the middle- and high-skilled jobs in IT, health care, and advanced manufacturing that employers often turn to the H-1B visa program to fill, thereby shedding light on whether the TechHire and SWFI grants were beginning to meet their intended policy goals.