

Work-and-Learn Models for Today's Economy

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Apprenticeships, or programs in which people learn on the job from experts in a field, are among the world's oldest forms of formal education. [Nationally](#), almost 27,000 registered apprenticeship programs operated in 2021, with nearly 3,000 new programs established in that year. 600,000 people were enrolled in registered apprenticeships in 2021, and nearly 100,000 graduated. The earnings outcomes of registered apprenticeship programs are significant, with average starting salaries after program completion of \$77,000.

Registered apprenticeships are dominated by men, with over 86% of active apprentices identifying as male. Racial and ethnic groups are underrepresented, with only 7.6% of active apprentices identifying as Black or African American and 1.1% identifying as American Indian or Alaska Native.

Untold numbers are participating in "work-and-learn" programs that have similar objectives to apprenticeships – programs that may not be registered with the US Department of Labor, but which provide paid work experience and education resulting in permanent employment.

Apprenticeships and structured work-and-learn programs, once focused primarily on younger people in particular careers, are valid options for adults and those with adult responsibilities who want or need to work while gaining their education. A new generation of these models is emerging, focusing more deeply on expanding talent pipelines, creating pathways into different industries, and offering the benefits of apprenticeship and work-and-learn models to populations that have previously been marginalized from both work and learning.

This brief describes several company-led models, reaching new populations and creating meaningful opportunities for both learning workers and businesses to succeed.

Lee Health – CNA Pathways

Lee Health has upended the typical hiring process for Certified Nursing Assistants (CNAs), hoping to expand the talent pipeline. Lee Health serves southwest Florida as one of the largest public healthcare systems in the state, with more than 14,000 employees and 2 million patients each year.

CNAs work in every part of the healthcare system, supporting patient needs and working in partnership with nurses and other clinical staff. Like many healthcare positions, CNAs are in high demand in hospitals, nursing homes, and other facilities, and demand is growing. At Lee Health, Jennifer Thayer, manager of workforce planning and development, indicates that on average, the system has at least 150 CNA positions open every month.

CNAs must complete a state-approved training program and pass an exam to be certified. Lee Health requires their CNAs to be trained at one of two local institutions that are accredited by the Board of Nursing of the State of Florida: Fort Meyers Technical College and

Cape Coral Technical College. While training takes only six weeks, the CNA talent pipeline is restricted by the colleges' capacity. Only 15 people can enroll in a class at a time.

Compounding the challenge was the leaky pipeline – not everyone who enrolled in the CNA class completed their training, and Lee Health was competing for graduates with other employers.

Working in partnership with the community through a collaboration known as the FutureMakers Coalition, Lee Health began addressing the CNA shortage years ago. Thayer commented: "Becoming a CNA is the entry point for most nurses if you're going to think about a pathway. The committee focused on building the pipeline. We worked with technical colleges to make sure those seats were filled, knowing that if we didn't have CNAs graduating, we wouldn't have people to hire. Fast forward to 2019, things were going well. Seats were being filled, it worked well. We were really meeting a workforce need." Lee Health worked closely with community actors to create awareness about open roles and identify people ready for training opportunities.

The COVID-19 pandemic changed everything and created a sense of urgency and a spirit of innovation. Interest in healthcare careers was dampened, and more people left the industry. Lee Health needed to think differently about its own role, moving from collaborator to actor. "It came down to two things. We had a critical staff shortage, and we recognized we couldn't put this burden on our staff through more overtime. We had to create an alternative to solve the problem," commented Thayer.

The system created what is essentially a healthcare apprenticeship. Lee Health hires individuals to work and learn, supporting debt-free training while paying full-time wages and benefits. "We've gone from helping schools fill the seats to paying folks to fill those seats," said Thayer.

Lee Health starts the process by hiring people in the same way they would for any open role. Candidates are interviewed, meet their potential team of nursing leaders, and are coached on what CNA training looks like. Candidates also must pass a background check and a drug screen, along with other requirements. The role encourages a high school diploma but requires a minimum of 9-10 grade reading proficiency, enabling students to pass the training and certification exam. Once hired, employees are considered full-time, receive benefits, and are paid at the entry-level rate of \$15.60 per hour.

Trainees are in class roughly 30 hours per week and spend their remaining time shadowing and learning their new role. Thayer indicated that this approach has multiple benefits: "Orientation is reduced because they've technically onboarded to the department already. The other piece, you can hire someone and they're not sure if being a CNA is a good fit for them. This program gives them a chance to find out. This is a real-life preview of the job."

This model also mitigates leaky pipeline issues, reducing the proportion of students who stop out of their training programs and assuring that completers will transition into roles with Lee Health. System trainees are succeeding and completing their programs. Thayer noted: "The feedback I've gotten is that our students are the best students in the class. They're more engaged, more focused. They've got the job; they've got the offer. As soon as we post, we

have a wait list. At any given point, we know we're full for the next two classes. The interest is bigger than the number of seats we can fill."

The model also recognizes that sometimes, due to personal circumstances, trainees were unable to complete their course. "One thing we always thought, if we removed the financial barrier of school that we'd solve the problem. These individuals were working two or three jobs, and we realized we needed to subsidize the income to enable them to go to school. That is the piece we solved with this program. We thought taking on the tuition would remove the barrier, but really it was the money and the time they need, not just one or the other," said Thayer.

And the program is paying off for Lee Health, as well. "We used to have to pick the students who graduated. Now we know who's graduating. It is a different ballgame entirely. We have less than 25% attrition, and we've graduated more than 100 CNAs from the program. It's been a critical piece for us in this workforce shortage," commented Thayer. "We are making a commitment. The ones we select, we want them to be whole from day one because we want them to succeed. No one benefits from the student leaving the seat. That means we have an unsuccessful hire and that someone who could have been in that seat didn't get that chance."

Once CNAs are in the system, they can take advantage of Lee Health's tuition assistance program and learn about the many opportunities for growth. The system has a supportive environment, hosting career cafes designed to help people learn about career clusters like nursing, physical therapy, IT, marketing, and others. Lee Health also requires that supervisors talk to employees about education and the support available, adding personal support to a robust career development program.

Thayer sees great value in growing local talent in the southwest Florida region. "These people already live here. That is huge. Coming here and finding a home is much more difficult than keeping the home you already have. It's common sense. This country is not going to recruit its way out of this challenge. Training your local workforce is the most local and accessible thing you can do."

Lee Health continues to engage with the community, as well. Florida Gulf Coast University, in partnership with FutureMakers Coalition, was recently awarded a Good Jobs grant by the US Economic Development Administration, which will support navigators working within industry sectors to help smooth the path from job search to training to employment. Tessa LeSage, longtime leader of FutureMakers Coalition, is looking to expand the approach exemplified by Lee Health, with an aim of transforming the region's workforce: "I have spent eight years trying to help people understand that we have an untapped workforce here and we're way better off focusing on upskilling them. They're connected here; they're adults living here with kids in school. They're not looking for the next big thing to leave. Employers have to be part of workforce development to meet their own goals."

Amazon Technical Apprenticeship Program

Amazon's Technical Apprenticeship Program (ATAP) creates paid work-and-learn opportunities for people from nontechnical backgrounds to become cloud computing professionals, moving into a variety of roles including solutions architect, software development engineer, and technical sales manager. Apprentices earn living wages from the first day of employment, along with comprehensive benefits and leave time. Apprentices spend up to 18 months working and studying toward a variety of certifications, including Linux+ and AWS Solutions Architecture, while gaining on-the-job training and work experience. Amazon provides almost all technical education through its Technical University, the company's in-house training institution.

Unlike many other apprenticeship programs which blend academic and on-the-job learning over time, ATAP frontloads technical training. Apprentices spend 8-18 weeks in the classroom learning and studying toward certification. Once they complete their credentials, apprentices move into on-the-job learning for up to 12 months. Apprentices are supported with an on-the-job learning plan, which blends ongoing training, online assessments, and project-based learning to assure that apprentices meet the same standards as industry hires.

ATAP is based on a competency-based model. While apprentices have up to 12 months of on-the-job learning, they can move more quickly if they are able. ATAP is also flexible, enabling apprentices who need extra time due to deployment or military activation to fulfill their other responsibilities.

ATAP is a registered apprenticeship, a decision the team made for the benefit of potential apprentices. Nick Curry, head of emerging talent pipelines with Amazon Web Services, commented, "Amazon made the deliberate choice to register our apprenticeships with the US Department of Labor to give prospective candidates confidence that the program would be official. At the time, there were many other options for skill building, and we wanted to go with something our candidates could trust."

ATAP launched in 2017 with a distinct focus on building apprenticeship opportunities for veterans and military spouses. Recently, the program has grown to include other populations, an intentional move to open the doors to high-paying cloud computing careers for working learners from community colleges and bootcamps, partner organizations in communities where Amazon has a presence, and Amazon's own [AWS Academy](#). Curry noted, "At Amazon, we're constantly looking for leaders who can invent, think big, have a bias for action, and who want to deliver for customers. Amazon will always continue to support the military community, but the apprenticeship program has proven there is talent out there in addition to military veterans. We want to use this skill building program to provide access and opportunity to a broad array of people, including those who come from historically marginalized or underserved communities."

Amazon views ATAP as an important part of the company's workforce strategy, using the program to draw in new talent and voices while removing the cost barrier for workers entering the field. Curry commented, "Overall, apprenticeships have been an effective way to attract and hire people from different backgrounds. They help Amazon and AWS think

differently, and bigger, so we can build services and products for our customers from all over the world. We also found that many apprentices become high-performing full-time employees because they were able to gain a deep understanding of the business through their training experience."

Since the program's inception five years ago, Amazon has hired more than 1,500 apprentices. On average, 80% move into full-time employment with Amazon when they complete their program. Among apprentices who do not move into roles with Amazon, 75% find roles in other tech companies, the vast majority of which are AWS customers. ATAP is creating a robust pipeline of tech talent for Amazon and for the tech industry.

The Apprentice Network – Creating a Movement

Aon, a global professional services firm, operates an [Apprenticeship Program](#) in Chicago and six other metro areas across the US, providing students and those without a traditional four-year degree with a path to careers in human resources, IT, and insurance while attending local community colleges. The program helps Aon attract and retain talented workers to build a more resilient workforce. More than 80% of the apprentices become full-time Aon colleagues.

Together with Accenture and Zurich North America, Aon founded the Chicago Apprentice Network in 2017. The network is an employer-led ecosystem designed to help businesses establish and expand high-quality apprenticeship programs, providing a professional and personal network for apprentices. While the Chicago Apprentice Network is the largest, networks have launched in New York, Minneapolis, Philadelphia, and other metro areas where Aon, Accenture, and Zurich have apprenticeship programs in place.

The network's approach removes barriers to entry for employers who are interested in building apprenticeship programs. First, the network offers a wealth of knowledge. With 86 members in Chicago alone, employers starting an apprenticeship have access to a roadmap. Further, Aon has created [guidance documents](#), including a step-by-step guide to designing a successful program. Second, employers can draw from peers to make the case to start their own programs – the business-to-business model is one built on trust and sharing rather than competition. Finally, the network insists on quality; only employers that support "registerable" apprenticeship programs are invited to join the network. While some companies choose not to register their programs with the US Department of Labor, all programs include:

- Salary and benefits
- Skilled supervision
- Classroom-based learning
- Work-based learning
- Credentials

Shantanae "Shay" Robinson, public affairs manager of Aon's Global Eco-Systems and Apprenticeship Program, works with the public and private sectors, institutions, and government officials to strengthen Apprentice Networks. "We charge nothing for people to learn about this. We've learned all the hard lessons so we're eager to lend a hand and share what we've learned," she said. While Shay is employed by Aon, she serves the network and its members. She is the primary connector, facilitating opportunities between employers at the various stages of their apprenticeship program journeys and supporting networking across communities.

This unique role is a vital contribution from Aon. The firm takes leadership of the network seriously and is working to make the Apprentice Network brand synonymous with quality.

In addition to creating venues for employers to learn from each other, the Apprentice Network supports connections between apprentices. Recognizing that apprentices may not have deep professional connections across companies, the Apprentice Network supports learning and professional development across the Network for apprentices themselves. "Many of us in careers have networks we've created through education and professional connections. Many apprentices don't have that. That is the other win-win here, building that skill and connection," commented Meghan Parrilla, vice president of global early careers and apprenticeships at Aon.

In Chicago, the growing demand for apprenticeships through the network has created significant new capacity. The City Colleges of Chicago, of which several campuses serve as education provider to Aon's apprentices, created a new office of apprentices. In other communities, relationships between the network and the local community college have strengthened outcomes for all. Parrilla commented, "We're able to have that connection point into colleges. Some colleges know how to work with employers. Some need some help. We've created working relationships from that perspective, ensuring they know how to work with employers. We've helped them build that muscle."

In this way, the Apprentice Network is not just supporting its members and apprentices, but all employers in the region. The results speak volumes. With more than 86 companies in 18 industries represented, more than 1,500 apprentices are committed in Chicago.

What We Learned

Apprenticeships and work-and-learn programs solve problems by merging systems that have had difficulty aligning in recent years, creating legitimate career pathways. What we see from the experiences described above is that apprenticeships, registered or otherwise, consistently remove barriers for potential employees while contributing to companies' strategic goals.

Apprenticeship programs are still dominated by the trades. Three trades positions alone – electricians, carpenters, and plumbers – account for more than 22% of all active apprentices. But the apprenticeship model, which blends academic, technical, and work-based learning and leads to a credential, supportive supervision, and paid work, is relevant for any field, especially those struggling to attract and retain talent.

The “hire-to-train” approach Lee Health has taken is a scalable solution for in-demand roles that require short-term training. Lee Health’s Thayer noted, “We used to post and pray.” Recognizing that many of those seeking roles as CNAs would struggle to afford and complete full-time training, the company took a proactive role to address trainees’ barriers. By supporting both tuition costs and wages, Lee Health significantly increased the likelihood that trainees would complete their program. By supporting learners, the system nearly guaranteed that it would have a pipeline of trained, onboarded employees ready to work upon program completion. This approach could work for any similar role that requires certification or short-term training and where potential employees might struggle to complete training without financial support.

Apprenticeship is also a highly flexible model, as demonstrated by Amazon. Working across a variety of occupations and focusing on marginalized populations, the company has created a scalable pathway into in-demand and high-quality jobs for those without four-year degrees. In particular, the company’s commitment to providing pay and benefits on day one allows apprentices to proceed at the speed of mastery while accommodating other responsibilities and enables the company and workers to succeed without falling victim to arbitrary time requirements or scheduling issues.

Aon’s commitment to the Apprentice Network underscores the demand for guidance and support for building apprenticeships that exists among employers from all industries. Aon’s Shay Robinson commented, “Most people know about apprenticeships in the trades. But once they hear about professional apprentices, it’s a game changer. It’s not about us being in competition. It’s about changing the workforce.” Many companies have a notion that apprenticeships are difficult to set up and manage. The Apprentice Network is breaking down barriers and misconceptions, creating opportunities for businesses and working learners to thrive together.

Done well, apprenticeships and work-and-learn approaches have the potential to contribute to more diverse workforces and create opportunities for people who have been marginalized from work and high-quality education. [Research](#) has shown time and time again that companies with more diverse workforces are more resilient, creative, and profitable. Work-and-learn models address both pain points of talent attraction and retention and promote long-term growth of the organization.

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About UpSkill America

UpSkill America, an initiative of the Aspen Institute Economic Opportunities Program, supports employers and workforce organizations to expand and improve high-quality educational and career advancement opportunities for America's front-line workers. We seek to create a movement of employers, civic organizations, workforce intermediaries, and policymakers working collaboratively to implement education, training, and development strategies that result in better jobs and opportunities for front-line workers, more competitive businesses, and stronger communities.



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