



# The Apprenticeship Advantage: Building a Sustainable Future Nursing Workforce

## Executive Summary

Ensuring a stable and well-prepared nursing workforce is a top priority for healthcare leaders. In addition to addressing workforce stability, nurse leaders must also focus on ensuring that new graduates enter the profession practice ready. Historically, bridging the gap between education and practice has been challenging, and these challenges were significantly exacerbated by the COVID-19 pandemic when students faced limited clinical training opportunities. This workforce crisis coincides with broader financial pressures facing healthcare organizations, further complicating efforts to sustain and strengthen the nursing pipeline.

Apprenticeships have long been a proven model for workforce development across various industries, integrating hands-on training with structured educational components. While widely utilized in fields such as skilled trades, healthcare has yet to adopt this model fully. However, the disruptions caused by the pandemic prompted many hospitals and academic institutions to explore apprenticeships as a viable, sustainable strategy for preparing the future nursing workforce. Several states have implemented variations of nursing apprenticeship programs, including fully registered models, yielding promising results and encouraging further adoption nationwide.

Recognizing the critical need for a sustainable nursing workforce, the Policy and Practice Committee has undertaken an initiative to develop nursing apprenticeships in Massachusetts at both practical and registered nursing levels. In collaboration with the Massachusetts Division of Apprenticeship Standards, the Smith Family Foundation, the Apprenticeship Degree Initiative, and key apprenticeship leaders across the country, the committee has worked to establish a framework for implementation.

This document outlines the first phase of this initiative, providing an overview of the apprenticeship model and its potential return on investment. It serves as a foundation for expanding and institutionalizing registered nurse apprenticeships to strengthen the future nursing workforce in Massachusetts.

## Background

Apprenticeship programs provide paid on-the-job training and have short and long-term advantages for employers, employees, and the workforce. Apprentices are employees who are

also students in educational programs and are paid to perform occupation-specific work, which may be completed as part of their program requirements. Apprenticeships are successfully used in many industries, with employers reporting improved retention and work productivity, decreased employee costs, and an employee pipeline. The success of these programs has increased their utilization; the number of Registered Apprentices in the United States has increased by more than 200,000 since 2015 (Cheney, 2019).

Benefits for apprentices include practical skill development, applicable experience, mentorship, and consistent compensation. Financial support helps students enter and stay in educational programs and allows them to continue being paid while they work toward program requirements. Apprenticeships offer a career trajectory, with outcomes such as achieving a license or credential and higher wage compensation at program completion. Apprentice programs benefit the workforce by contributing to overall workforce development and growth.

The U.S. Department of Labor (DOL) is invested in supporting apprenticeships that comply with federal regulations related to program design, worker protections, and other criteria. Both federal and private grants are available to support the development and implementation of apprenticeships. Federal support for apprenticeship programs has been increasing yearly since 2016. In 2024, the DOL appropriated \$285,000,000 for apprenticeship expansion (Congressional Research Services, 2025).

## **Apprenticeships and Education in Nursing**

In 2024, the healthcare industry supported 37,325 registered apprentices, reflecting a substantial increase over the past five years and a significant rise from 24,492 in 2023. Comparatively, in 2016, there were only 1,852 registered healthcare apprentices (ApprenticeshipUSA, 2025).

The majority of registered healthcare apprentices in the United States are in entry-level clinical occupations, such as medical and nursing assistants, which typically do not require college degrees or college-credit-bearing coursework. However, in professions like registered nursing—where the U.S. faces a shortage exceeding 78,000 nurses, with projected demand for approximately 197,200 additional RNs by 2032 (HRSA Health Workforce, 2022; U.S. Bureau of Labor Statistics, 2024)—apprenticeship models remain underutilized.

Most nursing programs require clinical rotations, yet many do not allow students to complete these on paid time, which contradicts the foundational earn-and-learn model of apprenticeships. Establishing registered nursing apprenticeship programs presents challenges, including accreditation standards set by the Accreditation Commission for Education in Nursing (ACEN) and the Commission on Collegiate Nursing Education (CCNE), which mandate that RN programs lead to a minimum of an associate degree. This requirement ensures that graduates are eligible to sit for the NCLEX credentialing exam, a prerequisite for state licensure. As a result, collaboration between colleges and healthcare employers is essential to integrate apprenticeship experiences within degree-granting programs.

Colleges face significant barriers to expanding nursing education, including limited enrollment capacity, faculty shortages, and complex state and programmatic accreditation regulations. In 2023, Becker's Hospital Review reported that over 65,000 qualified nursing applicants were turned away due to insufficient program capacity (Asin, 2024). The primary constraints include limited clinical rotation placements and challenges recruiting experienced and credentialed faculty, exacerbated by faculty retirements, burnout, and the higher wages available in clinical practice settings.

As a result, post-licensure nursing apprenticeships are becoming more common. These include programs such as the Registered Nurse Residency and School Nurse Apprenticeship models. The Registered Nurse Residency is typically a 12-month program designed to equip new nurses with the skills, knowledge, and confidence to provide competent, safe, and patient-centered care. The School Nurse Apprenticeship focuses on preparing nurses to support students' emotional, mental, physical, and social well-being in educational settings.

Expanding nursing apprenticeships—both pre- and post-licensure—has the potential to strengthen the workforce pipeline, improve retention, and address critical shortages in the nursing profession.

## The Need for Nurse Apprenticeships

According to a [Health Workforce Analysis](#) published by the Health Resources and Services Administration (HRSA) in November 2022, federal authorities project a shortage of 78,610 full-time RNs in 2025 and a shortage of 63,720 full-time RNs in 2030. The ten states with the largest projected nursing shortage in 2035 are Washington (26%), Georgia (21%), California (18%), Oregon (16%), Michigan (15%), Idaho (15%), Louisiana (13%), North Carolina (13%), New Jersey (12%), and South Carolina (11%). Data for each state may be accessed through HRSA's [Workforce Projections Dashboard](#).

In April 2022, Dr. David Auerbach and colleagues [published a nursing workforce analysis](#) in [Health Affairs](#), which found that the total supply of RNs decreased by more than 100,000 from 2020 to 2021—the largest drop ever observed over the past four decades. A significant number of nurses leaving the workforce were under 35, and most were employed in hospitals (Auerbach et al., 2022).

Attrition is also driving the workforce shortage. Twenty-nine percent of RNs reported that they plan to retire within the next five years (6.6% more than in a 2020 survey). [NCSBN National Workforce Survey, 2022]. Nurses are leaving the profession before retirement age. The U.S. has more than four million active Registered Nurses, but only 81% of those RNs are actively employed in nursing full or part-time. [NCSBN National Workforce Survey 2022]. Nearly 18% of nurses leave the profession within their first year, and three in 10 say they plan to leave. [AMN Nurse Survey 2023, Nursing World 2023]. More than 25% of RNs reported feeling burned out from work every day [see NCSBN 2022].

The Massachusetts Health & Hospital Association (MHA) conducted a 2022 member survey of acute care hospitals to assess workforce vacancies across 47 critical clinical and operational positions. Findings revealed that vacancy rates for key nursing roles varied significantly, ranging

from 8% for clinical nurse specialists, labor and delivery RNs, and PACU RNs to 56% for LPNs (Massachusetts Health & Hospital Association, 2022).

A 2024 survey of post-acute hospitals reported a 14.8% RN vacancy rate and a 24.1% LPN vacancy rate, underscoring ongoing workforce challenges. Both reports emphasized the need to develop and support pathways into nursing careers that alleviate financial burdens on students, provide comprehensive wraparound support, and offer structured career ladder opportunities to facilitate long-term professional growth (Massachusetts Health & Hospital Association, 2024).

## **The Need for Student Support**

Financial support for students is integral to successful program completion; many students must work while completing their LPN or RN program to support themselves and their families.

Rigorous Nursing programs are almost always considered full-time and with semester-by-semester schedule changes. Wage uncertainty due to class or clinical schedules may contribute to students leaving their program to work consistently or more hours. Students who have established families or are without other financial resources are particularly at risk; those in accelerated BSN programs and LPN programs often have a prior degree and were in the workforce before deciding to pursue a degree in nursing. Consistent income for training in an educational program may be pivotal to supporting this population.

## **Nursing Education in the Post-Covid Era**

The landscape of clinical education post-covid is stark due to the aforementioned attrition. Nursing programs struggle to find appropriate and available clinical sites and clinical faculty. Apprenticeship programs can build bridges between healthcare agencies and educational programs, providing sites for clinical training to support their student employees in meeting their educational requirements.

Due to attrition rates, producing practice-ready nurses is paramount to support quality patient care and health outcomes. Apprenticeships provide opportunities for nursing students to take a clinical role while in nursing school and to orient to the systems used within health care agencies to provide a continuum of care. On-the-job training is integral to being practice-ready and provides work experience for the apprentice to develop soft skills such as flexibility, communication, critical thinking, and professional attitude. Well-structured apprenticeship programs will support both student training and patient safety through competency-based training and evaluation. The DOL has apprenticeship framework recommendations, including a competency-based approach (Congressional Research Service, 2025).

The American Academy of Colleges of Nursing (AACN) has transitioned to competency-based curriculum standards for BSN education (American Association of Colleges of Nursing, 2021). These competency-based standards are well-positioned to guide apprentice programs in creating training, evaluation criteria, and checklists, ensuring that trainees gain skills and are competent to provide safe, appropriate care. After a trainee completes their degree and attains their nursing license, transitioning to a nurse role within the agency should be seamless with minimal onboarding time.

## Nursing Apprenticeship Models in Other States

States across the U.S. are implementing nursing apprenticeship programs to strengthen the nursing workforce pipeline and enhance clinical training opportunities.

**California:** The California Department of Corrections, in partnership with SEIU and local community colleges, has established an earn-and-learn nursing apprenticeship program for nursing candidates employed within the state's prison system. This model allows participants to maintain their employment and salaries while dedicating half their work hours to training for registered nursing roles (High Road, 2022).

**North Carolina:** In 2020, Davidson-Davie Community College (Davidson-Davie) partnered with Atrium Health Wake Forest Baptist to establish the state's first registered nursing apprenticeship program. This initiative enables students enrolled in the Associate Degree in Nursing (ADN) program to gain practical experience in the healthcare industry while concurrently preparing for the National Council Licensure Examination for Registered Nurses (NCLEX-RN) (Thomas, 2024).

Employers participating in the program receive financial incentives, including up to \$2,000 per apprentice for onboarding and training, as well as a 50% salary reimbursement for wages up to \$15 per hour for non-high school students and \$14 per hour for high school students. Additionally, colleges receive up to \$2,500 per apprentice to cover tuition, books, fees, and supplies. To further support workforce development, the U.S. Department of Labor allocated a \$4 million grant to the North Carolina Community College System to enhance ApprenticeshipNC, which has been under the system's administration since 2017 (Thomas, 2024).

A key benefit of the apprenticeship program is its ability to accelerate the RN pathway, reducing the program duration from 36 months to 24 months. Unlike non-apprentice students, who must complete 3,328 hours of Licensed Practical Nurse (LPN)-specific work to qualify for the LPN-to-ADN transition program, apprentices are exempt from this requirement due to their structured on-the-job training and mentorship-based work experience (Thomas, 2024).

**Washington:** The Washington Health Care Licensed Practical Nurse (LPN) Apprenticeship Program launched its pilot in fall 2024 with an initial cohort of 10 students. Designed for current Certified Nursing Assistants (CNAs) enrolled in the LPN program at Edmonds College, the apprenticeship integrates academic coursework with hands-on training ([source](#)).

The program features a hybrid learning model, with virtual lectures and weekly in-person lab sessions at Edmonds College in Lynnwood, WA. Apprentices are required to complete 300 hours of clinical work, approximately 150 hours at their employer's facility, and an additional 2,000+ hours of paid on-the-job training (OJT) in long-term care settings (Washington Healthcare Association, 2025).

### Compensation & Benefits

- Paid on-the-job training with wages ranging from \$23.75 to \$29.45 per hour (exact compensation and benefits determined by the employing skilled nursing facility).

- 50% tuition cost coverage.
- Practical Nursing (PN) technician license fee coverage.
- NCLEX preparation materials and exam fee coverage.
- Upon completion, apprentices receive compensation at or above the rate of an LPN with 1.5 years of experience at their employing facility.

These initiatives demonstrate a growing national commitment to nursing apprenticeship models, offering structured pathways that integrate paid, hands-on experience with formal education to address workforce shortages and improve retention.

### Exemplar Apprenticeship Programs: Alabama, North Dakota, Texas

**Alabama:** The Alabama Board of Nursing worked with the state legislature to design [statutory changes](#) to create a new Nursing Apprenticeship License under the law. The Board of Nursing ensured that the new license fits into the state's existing nursing education and licensure requirements. This program is registered through the Alabama State Apprenticeship Agency.

In Alabama, Governor Ivy empowered the Office of Apprenticeship to act by convening all necessary players into a conversation about nursing Apprenticeships. The convening acted as a gathering place and clearinghouse for new ideas and approaches and led Alabama to become the first in the nation with a nursing apprenticeship program.

### Apprenticeship Prior to Graduation and Initial Licensure

The Alabama Board of Nursing worked with the state legislature to design [statutory changes](#) to create a Student Nurse Apprentice License. The Board of Nursing ensured that the new license met the state's existing nursing education and licensure requirements. Governor Ivy empowered the Alabama Office of Apprenticeship to convene necessary players into a conversation about nursing apprenticeships. The convening acted as a gathering place and clearinghouse for new ideas and approaches. Alabama became the first state to register apprenticeships prior to graduation and initial licensure.

The [law](#) allows hospitals to “employ student nurse apprentices to perform nursing skills, tasks, and activities, as submitted by Alabama Industry Recognized and Registered Apprenticeship Program and approved by the Board, provided such training, tasks, skills, and activities are performed under supervision by licensed nurses.” graduation to get a temporary license to practice nursing in healthcare fields under the supervision of a licensed nurse or doctor.

[Under Alabama law](#), “The supervising licensed nurse is responsible for validating an apprentice's competency to perform nursing skills or activities assigned to the apprentice in the clinical setting.”

Alabama's nursing apprenticeship model is explicitly designed to remove the barriers to entry for nursing candidates. Nursing apprentices work an average of 24 paid hours per week on a progressive wage scale that increases along with their competencies and scope of work. Employers serve as the "last-dollar scholarship" for apprentices to ensure that no apprentice incurs debt for their training. In cases where an employer may not have all the specialty areas

needed for clinical rotations, they pay to send their nurse apprentices to other sites to gain relevant experience. Any outcomes from the agencies? Paid for clinical hours?

Alabama has more than 600 registered nursing apprentices. Research is underway to compare the traditional clinical model/approach with the apprenticeship model. Participating employers and nursing faculty report vastly superior training outcomes with lower ratios in Apprenticeship. Initial reports find that nursing apprentices have much higher confidence levels upon program completion. The nursing apprentices in Alabama have a 100% N-CLEX pass rate.

**North Dakota:** In fall 2022, North Dakota launched its Registered Nursing (RN) apprenticeship program as a pilot initiative led by Lake Region State College (LRSC) in collaboration with three employer partners. This program serves as the capstone of a structured Registered Apprenticeship pathway, which enables students to progress from Certified Nursing Assistant (CNA) in year one to Licensed Practical Nurse (LPN) in year two, and ultimately to Registered Nurse (RN) in year three, with the flexibility for students to enter at various points along the pathway (American Institutes for Research, 2023).

The apprenticeship utilizes LRSC's standard RN coursework while integrating existing clinical practicum requirements. However, registered apprentices receive compensation for practicum hours and engage in an additional 8 to 16 hours per week of mentor-guided work experience. The program also leverages North Dakota's "rules of delegation," which allow nurses to delegate specific tasks to CNAs and LPNs who have demonstrated competency. This structure enables apprentices to progressively learn, apply, and refine their clinical skills in a real-world setting.

**Texas:** In July 2023, Texas was the first state to register a nursing apprenticeship federally, in collaboration with South Texas College and the Texas Workforce Commission. Apprentices receive an associate degree in nursing. In addition to their classroom work, these apprentices will complete 2,000 paid clinical hours. Traditional nursing students spend a fraction of their time in a hospital and are unpaid for clinical hours.

## **Enhancing Nursing Workforce Development through Apprenticeship Programs: A Cost-Benefit Analysis**

Traditionally, nursing education has followed a conventional academic pathway to prepare nurses for the healthcare workforce. In contrast, the apprenticeship model presents an innovative approach, providing students with financial support while equipping them with the necessary clinical and technical skills for a seamless transition into professional nursing practice. A critical factor in the success of nurse apprenticeship programs is the establishment of strong partnerships with healthcare organizations. Despite the numerous benefits of apprenticeships, assessing their return on investment (ROI) is essential to ensure their viability and sustainability for healthcare institutions.

### **Apprenticeship Structure and Investment Considerations**

An apprenticeship is 2,000 hours. The nurse apprentice receives compensation for 2,000 hours over a designated time period. This encompasses classroom instruction, technical education,



clinical training, and at least two 8-hour shifts per week of productive work within a healthcare organization. The program includes a structured promotion from Apprentice I to Apprentice II at the start of the final semester of the student's program, accompanied by a pay increase. While the apprenticeship model requires upfront financial investment, it also integrates productive work hours, reducing the overall cost burden on the organization.

Apprentice labor costs consist of three key components:

- Clinical work time that directly supports patient care operations
- Classroom instruction and technical training
- Clinical rotation time

Within the apprenticeship model, students are compensated for the clinical rotation hours required for program completion. The Accreditation Commission for Education in Nursing fully endorses this payment structure.

## Challenges in the Nursing Workforce

Several workforce challenges underscore the need for innovative solutions such as nurse apprenticeship programs:

- The average hospital experiences 100% nurse turnover over a five-year period (Mustafa, 2024).
- Annual nurse turnover rates currently stand at approximately 20% (Zheng, 2024).
- The average recruitment time for a nurse in 2024 ranged from 73 to 94 days, with a mean of 83 days per position (NSI Nursing Solutions, 2024).
- Travel nurses earn an average annual salary of \$212,846, contributing to significant cost implications for healthcare facilities (NSI Nursing Solutions, 2024).

## Economic Impact of Nurse Turnover

Nurse turnover presents substantial financial burdens for healthcare organizations:

- The estimated cost per nurse turnover is \$56,300, amounting to annual losses of \$3.9 to \$5.8 million per hospital (Zheng, 2024).
- A single percentage reduction in turnover can yield savings of \$262,300 per year (Mustafa, 2024).
- The cost of orienting and training a new graduate nurse ranges from \$8,000 to \$15,000, depending on salary and benefits structure.
- Sign-on bonuses for new nurses range from \$2,000 to \$15,000 per nurse, with some exceeding this amount (Koivisto, 2025).



## Offsetting Costs through Apprenticeship Programs

While nurse apprenticeship programs require an initial investment, several cost-saving mechanisms mitigate these expenses:

1. **Integration of Orientation:** Apprenticeship programs incorporate structured orientation at a lower apprenticeship pay scale rather than at an RN or LPN wage, reducing salary-related expenditures. Additionally, apprentices are classified as non-benefited employees, generating approximately 26% in cost savings.
2. **Expedited Transition to Practice:** By embedding orientation into the apprenticeship model, newly graduated nurses can transition into full-time roles more efficiently, reducing the period of non-productive, benefited time.
3. **Reduced Reliance on Sign-On Bonuses:** Since apprentices receive financial support throughout their training, the need for sign-on bonuses is significantly diminished. The paid apprenticeship period is an alternative incentive, lowering recruitment costs.
4. **Improved Retention Rates:** Apprenticeship programs demonstrate a strong positive impact on workforce retention. Apprentices report higher job satisfaction and are less likely to leave their organizations, with an average retention rate of 92% (Hughes, 2023; One Flow, 2023). This contributes to lower vacancy rates, improved productivity, and decreased reliance on costly contract labor (National Center for Apprenticeship Degrees, 2024).
5. **Grants and Funding:** Historically, federal and state grants and private organizations have supported costs to support new or expanding apprenticeships. Other programs like WIOA, Pell Grants, and the GI Bill have supported the cost of Registered Apprenticeship Programs.
6. **Tax credits:** The Registered Apprentice Tax Credit (RATC) provides employers with a state tax credit of 50% of an apprentice's wages, up to \$4,800 per apprentice, with a maximum of \$100,000 per year, claimable for up to two consecutive years per apprentice, and any excess credit can be refunded in full (Mass.gov - Registered Apprentice Tax Credit).
7. **Case Studies:** Alabama allocates \$2 million annually to support the expansion of apprenticeship programs. These funds reimburse employers for 50% of wage costs for up to 480 hours and offer incentives of up to \$10,000 to assist in establishing employer-based training programs. Many healthcare organizations have leveraged these funds to mitigate the initial costs associated with developing apprenticeship initiatives (Alabama Department of Revenue, 2025).

Dayton Children's Hospital has experienced a strong return on investment (ROI) through its RISE program. The hospital invests between \$16,000 and \$40,000 per nursing candidate over a two-year program. In contrast, the financial impact of losing a nurse within the first year of employment is approximately three times the nurse's annual salary. By reducing turnover costs, the RISE program proves to be a strategic and cost-effective investment for the hospital (Dayton Children's, 2023).

## Cost-Benefit Comparison of Nurse Apprenticeship vs. Traditional Hiring

Cost Factors	Traditional Hiring	Apprenticeship Program	Potential Savings
Nurse Turnover Cost per RN	\$56,300	Reduced due to retention	Estimated \$262,300 per 1% reduction in turnover
Orientation & Training Cost	\$8,000 - \$15,000	Lower due to early integration	Significant reduction
Recruitment Time (Avg Days)	83 days	Reduced due to internal pipeline	Faster onboarding
Sign-On Bonuses	\$2,000 - \$15,000	Eliminated or reduced	Direct cost savings
Apprentice Productivity	N/A	16 hours per week	Offsets program costs

## Beyond Economic Benefits: Organizational and Patient Care Advantages

In addition to financial savings, apprenticeships offer qualitative benefits that enhance healthcare organizations and patient outcomes:

- Enhanced Patient Safety and Quality of Care:** A well-trained nursing workforce contributes to improved clinical outcomes and reduces the likelihood of medical errors.
- Strengthened Organizational Culture:** Apprenticeships foster a culture of mentorship and professional growth, reinforcing workforce stability and employee satisfaction.
- Sustainable Talent Pipeline:** Apprenticeships create a structured and reliable pathway for recruiting and developing nursing talent, ensuring a steady influx of skilled professionals into the workforce (National Center for Apprenticeship Degrees, 2024).
- Case Study:** A three-year study at UW Health across five registered apprenticeship programs found 95% program retention, 96% postgraduate employee rate, and a 99% first-time credential pass rate (i.e., NCLEX). Additionally, participants felt increased employee loyalty and engagement. The apprenticeship programs also produced diverse representations reflecting the populations served. There was notable diverse representation across operations, reflecting our increasingly diverse patients.
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## The Return on Investment

The apprenticeship model represents a forward-thinking approach to nursing education and workforce development. While it necessitates initial financial investment, the long-term benefits—ranging from reduced turnover costs and decreased recruitment expenditures to

improved retention and workforce stability—demonstrate its viability as a cost-effective solution. By integrating apprenticeship programs into their workforce strategies, healthcare organizations can enhance financial sustainability while simultaneously improving patient care outcomes and strengthening their nursing workforce.

***The Apprenticeship Advantage: Building a Sustainable Future Nursing Workforce*** recommendation was presented at the NCWS council meeting on March 13, 2025. The recommendation was voted on and approved by council members unanimously following the meeting.

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