

Critical Shortages Ahead

Aligning the Nursing and
Allied Health Education
Pipeline with Growing
Employer Demand



A BRIEF NOTE ON OUR TERMINOLOGY

The Six Critical Occupations

Licensed practical nurses (LPNs), who complete 12- to 18-month certificate programs; primarily employed in long-term care. Where the data allow us to differentiate, we show and abbreviate as either AC (acute care) or LTC (long-term care).

Associate degree registered nurses (ADNs), who complete up to 72 credit programs; employed in a range of settings including long-term care, home health, physician's offices, and acute care. Acute care employers surveyed had difficulties distinguishing between BSN and ADN staffing and hiring, so the data reported primarily reflects survey responses from long-term care providers.

Medical/clinical laboratory technicians (med lab techs), who complete two-year associate degree programs; primarily employed in acute care or diagnostic laboratories.

Respiratory therapists, who complete two-year associate degree programs; primarily employed in acute care.

Surgical technologists (surg techs), who complete a two-year associate degree; primarily employed in acute care. Prior to 2022, national accreditors allowed certificate programs. Today, they require associate degrees.

Radiologic technologists/radiographers (rad techs), who complete two-year associate degrees. While there are also four-year degree programs preparing students for these occupations, our analysis focused on the associate degree workforce employed in acute care.

Definitions

Enrollment: The number of students entering in each new annual cohort. This may include students entering at different times throughout the year as long as they are first-time enrollments during the same fiscal year.

Qualified applicants: Students applying who have met all the GPA, test score, and prerequisite course requirements for the program.

New hires/hiring: The total number of open positions in these occupations filled within the past year. This includes both new positions to support growth, and backfilling positions that are open due to retirements, career changes, or movement to a different employer.

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Executive Summary

Employer demand far exceeds the supply of workers in six key nursing and allied health fields. Education programs recognize this intense shortage, and the vast majority want to grow to help address it. However, a variety of barriers severely constrain their ability to add capacity. This has substantial and unsustainable consequences for the state's leading industry, as well as for individual economic opportunity, upward mobility, and health and well-being.

Produced in partnership by the MassINC Policy Center, the Massachusetts Health and Hospital Association, the Massachusetts Association of Community Colleges, and the Richard and Susan Smith Family Foundation, this analysis provides an in-depth examination of these supply and demand imbalances, the barriers to expanding enrollment, the costs and consequences, and potential solutions.

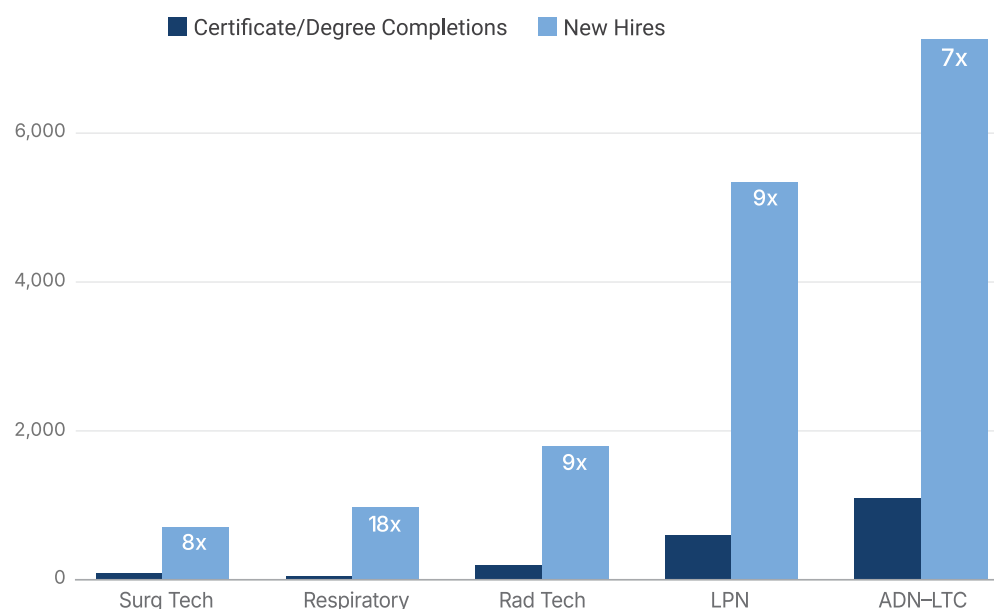
Supply and Demand Imbalances

Surveys of acute care and long-term care employers, interviews with education providers, and analysis of publicly available workforce and education data surfaced five key signs and drivers of supply and demand imbalances in mission-critical nursing and allied health occupations:

- A Certificate and degree completions have fallen considerably over the past decade.** Compared to 2016, completions have fallen by 23 percent across the six programs, on average. Contraction has been sharpest for med lab techs (-46 percent), LPNs (-30 percent), and ADNs (-23 percent).
- B Education programs in Massachusetts do not produce enough graduates to fill current vacancies, and their yield falls far short of total annual hiring needs.** Facilities report that one in eight LPN positions are open; for rad tech and respiratory therapy, it is one in six. Education programs do not produce enough graduates to fill current vacancies in any of the six occupations. Across the six occupations, new hires exceed new graduates by a by ratios ranging from 7:1 to 18:1 (Figure ES-1).
- C The number of qualified students seeking education for these occupations from Massachusetts community colleges exceeds expected programmatic capacity by at least two to one.** Community college programs for these six occupations currently draw about 4,500 applicants, but they only have the capacity to enroll around 2,200 students. The imbalance is most severe for rad tech, where programs have five qualified applicants for each available seat (Figure ES-2).
- D While many programs are working to increase enrollment, planned expansion is far below the capacity required to meet current and future workforce needs.** Across the six programs combined, planned expansion over the next two to three years is around 400 seats, or roughly 20 percent more than expected enrollment for the fall of 2026. If programs continue to grow at this pace through the end of the decade and completion rates hold steady, the gap between hires and graduates coming through these education pipelines will widen slightly. However, if growth in demand for health services accelerates in the coming years as expected, the gap between workforce demand and the state's education pipeline will grow, and the pipeline will be able to provide less than 10 percent of the required workers by 2030.

E Large geographic gaps in education capacity exacerbate the workforce shortage in some parts of the state. Strikingly, education capacity in Greater Boston—the epicenter of the state’s global healthcare industry—consistently falls well below average based on its share of licensed beds.

Figure ES-1: Annual new hires versus annual certificate/degree completions, by occupation



Completions for surg tech, respiratory, and rad tech from 2024 IPEDS; LPN and ADN from 2025 BORN report. Med lab tech excluded because lab hiring data are unavailable. ADN only includes hiring by long-term care facilities. Source: Employer survey, IPEDS, and Massachusetts Board of Registration in Nursing

Barriers to Expanding the Education Pipeline

While health deans and program leaders overwhelmingly want to expand enrollment further to serve qualified students and meet industry needs, large majorities identified three obstacles as a “top barriers” to expansion: insufficient clinical placements (85 percent), faculty and program leadership shortages (81 percent), and state regulatory barriers for nursing (74 percent).

The Costs and Consequences

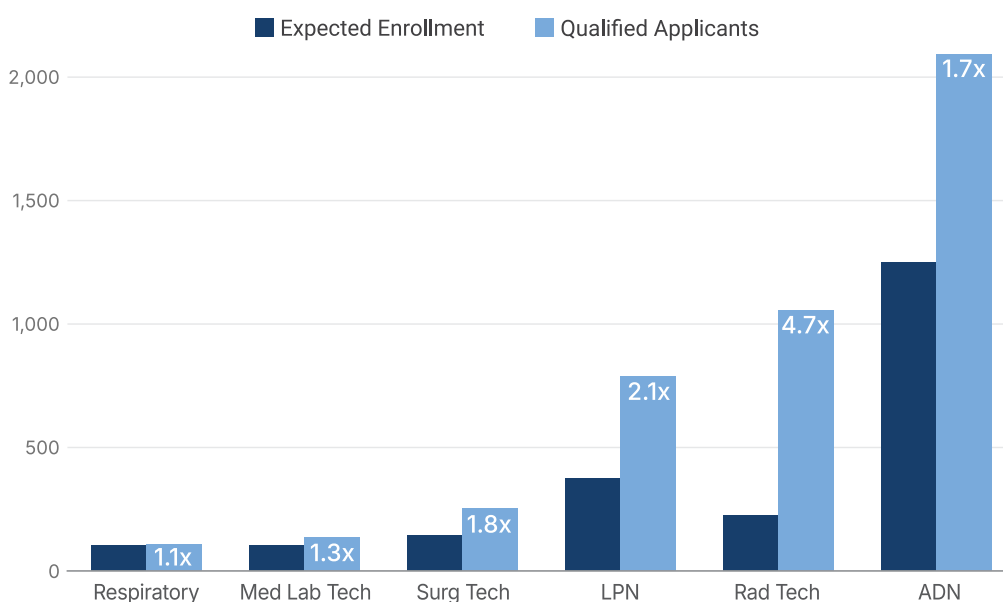
The interview and survey data collected for this report reveal the costs of a narrow and severely constrained pipeline across multiple dimensions. In particular, three stand out:

A **The high cost of staff turnover.** In occupations facing severe labor shortages, persistent turnover creates a costly cycle that undermines the quality, accessibility, and affordability of care: Nearly one-fifth of surgical technicians left their positions over the past year; in long-term care facilities, more than a quarter of LPNs exited, and in acute care hospitals, turnover rates for ADNs were equally high.

B The high cost of travelers. Survey respondents for both acute and long-term care organizations reported a combined \$232 million in annual spending on temporary agency staff. Extrapolating from these figures to all Massachusetts employers, the actual agency spend for these six occupations alone likely exceeds \$450 million.

C The high cost of lost economic opportunity. Beyond the impact on healthcare organizations, these vacancies represent a missed economic opportunity for Massachusetts residents that is more difficult to quantify. However, we know that community college students who are unable to enroll in these programs often do not complete or fall back on other degrees that provide far less labor market benefit.

Figure ES-2. Expected enrollment in certificate/degree programs versus qualified applicants, 2026–2027 academic year



Source: Data reported by programs

Potential Solutions

Our analysis shows that the scale of the mismatch between supply and demand in these six critical occupations is extremely large. Despite many well-intentioned efforts to meet these workforce needs, the gap is likely to widen in the future. Incremental improvement will not solve this problem.

To make real progress, the research points to four high-impact interventions that are within the span of control of Massachusetts educators, employers, regulators, administrators, and policymakers:

A Expand clinical education capacity by increasing the number, flexibility, and efficiency of clinical placements and clinical educators.

B Strengthen the educator workforce by addressing faculty compensation gaps and qualification constraints.

C Create a state regulatory environment supportive of expanding nurse education capacity and the associated increased flexibilities required.

D Develop longitudinal data systems to follow students through education, licensing, and into the workforce.

The findings of this analysis make clear that addressing these workforce shortages will require bold, coordinated action across healthcare, higher education, and state government. Strategic investments to expand educational capacity, strengthen clinical training opportunities, recruit and retain faculty, and remove barriers to program growth are essential to building a sustainable workforce pipeline. By acting now, Massachusetts has the opportunity to strengthen its healthcare workforce, improve access to high-quality care, expand economic opportunity for residents, and preserve the commonwealth's position as a global leader in healthcare. The cost of inaction is simply too great—for patients, providers, communities, and the long-term health of the state's economy.

Introduction

Massachusetts faces persistent and growing workforce shortages across critical healthcare occupations, particularly in allied health fields and entry-to-mid-level nursing roles. While these challenges and their consequences are widely recognized, we lack a shared, data-driven understanding of how workforce demand aligns with the capacity of our education system.

A better understanding of workforce needs—and the education system’s capacity to meet them—is essential. Healthcare is the cornerstone of the Massachusetts economy and the state’s fastest-growing sector. As documented in a recent report by the Massachusetts Health & Hospital Association (MHA), healthcare supports approximately 450,000 jobs and generates \$94 billion in annual economic activity.¹ It directly accounts for roughly 10 percent of the state’s gross domestic product while also strengthening the broader economy by keeping residents healthy and productive.²

Meeting the workforce needs of healthcare employers presents unique challenges. Rapid advances in technology continually reshape treatment protocols, expand the roles that healthcare workers perform, and change the skills they need to succeed. Yet adapting education programs to keep pace is difficult within a complex regulatory environment involving state and federal agencies, independent licensing boards, and higher education accreditors.

Since the COVID-19 pandemic, healthcare employers have faced unusually intense worker shortages. Several groups have sought to draw attention to these challenges by collecting and reporting data on workforce trends, including the Center for Health Information and Analysis, MHA, and the Massachusetts Health Policy Commission. However, these efforts have all lacked comparisons to the education pipeline.

To help fill this information void, the MassINC Policy Center teamed up with MHA, the Massachusetts Association of Community Colleges, and the Richard and Susan Smith Family Foundation. We convened human resources officers and other system leaders to focus our efforts on the highest-priority needs in both acute and post-acute care settings. Together, they identified six occupations:

- Licensed practical nurses (LPNs)
- Associate degree registered nurses (ADNs)
- Respiratory therapists
- Surgical technologists (surg techs)
- Radiologic technologists/radiographers (rad techs)
- Medical/clinical laboratory technicians (med lab techs)

A better understanding of workforce needs—and the education system’s capacity to meet them—is essential. Healthcare is the cornerstone of the Massachusetts economy and the state’s fastest-growing sector.

These six occupations represent critical components of the healthcare delivery system. Employers have experienced significant and persistent challenges hiring for these positions. In response, they have had to rely heavily on signing bonuses, travelers, and other costly interim solutions.

Notably, all six of these occupations require specialized education that Massachusetts community colleges can deliver. MassReconnect and MassEducate provide a tremendous new opening to grow the education pipeline. Since the legislature launched these efforts to make community college free for most students without a postsecondary degree, enrollment in the state's two-year institutions has grown by more than one-third.³

At the same time, private two-year colleges are under considerable pressure amid the broader trend of declining enrollment in higher education. Several have shuttered education programs that in the past had prepared a sizable number of graduates for these occupations.

As employers struggle to meet workforce demand and the education system undergoes significant change, the holistic understanding of the healthcare workforce education pipeline that we have long been lacking becomes even more critical. To gather missing information, we surveyed acute care and long-term care employers, interviewed education providers, analyzed publicly available workforce and education data, and engaged stakeholders. We sought to assess the current and likely future misalignment between employer demand and graduate supply and to identify the top barriers that will need to be addressed to bring supply and demand into greater balance.

Through unprecedented partnership and collaboration, this research fills gaps in publicly available data and provides a more complete picture of the healthcare workforce pipeline to inform efforts to address the shortage in six key occupations. First, we juxtapose labor demand and the education pipeline. Section 2 presents the barriers to growing these talent pipelines, and section 3 describes the costs and consequences of these gaps. The report concludes with a call to action and high-level recommendations. Appendices provide detailed descriptions of labor demand and the education pipeline for each occupation, along with more detail on the data sources and methods.

1

Labor Demand and the Education Pipeline

In the spring of 2026, we interviewed leaders from 27 of the 30 Massachusetts institutions that currently offer—or plan to launch this coming academic year—the certificate and degree programs associated with the six target occupations. Participants included health deans and/or health program leaders from all 15 Massachusetts community colleges, eight of the 10 vocational technical schools offering licensed practical nursing programs, and four of the five private higher education institutions with relevant programs.

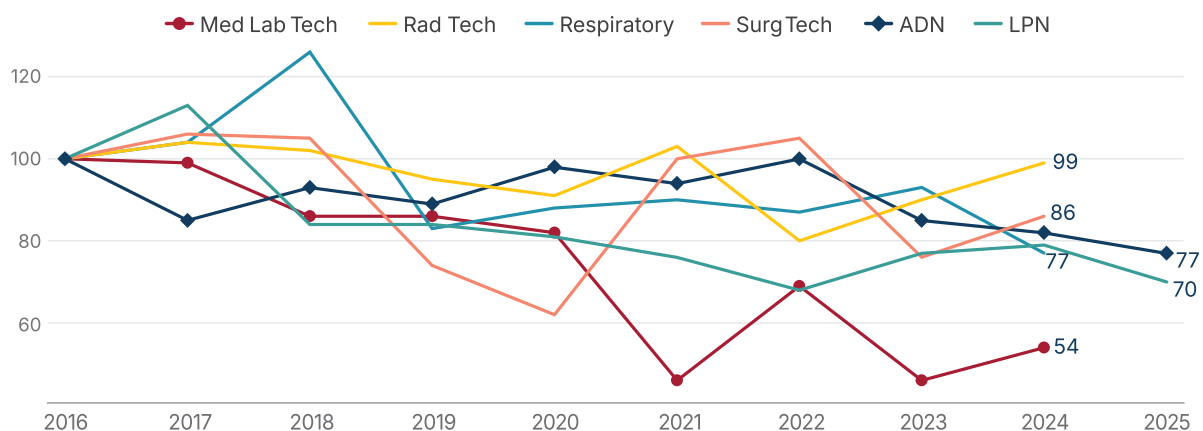
To better understand current workforce demand and how employers staff these occupations, MHA and Mass Senior Care Association surveyed human resource leaders from acute care hospitals and long-term care providers. Together, survey respondents employ approximately two-thirds of Massachusetts workers in these six occupations.

We supplemented these interviews and surveys with certificate and degree completion data from the US Department of Education’s Integrated Postsecondary Education Data System (IPEDS) and the Massachusetts Board of Registration in Nursing, employment and wage data from the US Bureau of Labor Statistics’ Occupational Employment and Wage Statistics program, and hospital and workforce data from the Center for Health Information & Analysis. These public datasets provided historical context for the survey findings and established the baseline employment and education trends needed to extrapolate survey results to the statewide workforce.

Taken together, these qualitative and quantitative data provide a educator- and employer-informed view of Massachusetts’ healthcare workforce pipeline, which we summarize in five key findings:

A Certificate and degree completions have fallen considerably over the past decade. Compared to 2016, completions have fallen by 23 percent across the six programs, on average (Figure 1). Contraction was sharpest for med lab tech (-46 percent), LPNs (-30 percent), and ADN and respiratory therapists (-23 percent). While completions for med lab tech and licensed practical nursing programs have rebounded somewhat from their COVID-19-era lows in 2021, completions in the other four occupations continued to decline throughout the recovery, despite strong employer demand as healthcare providers worked to rebuild their workforces following pandemic-induced turnover and expand staffing to meet the increasing needs of an aging population.

Figure 1. Annual certificate/degree completions indexed to 2016



Source: IPEDS and Massachusetts Board of Registration in Nursing

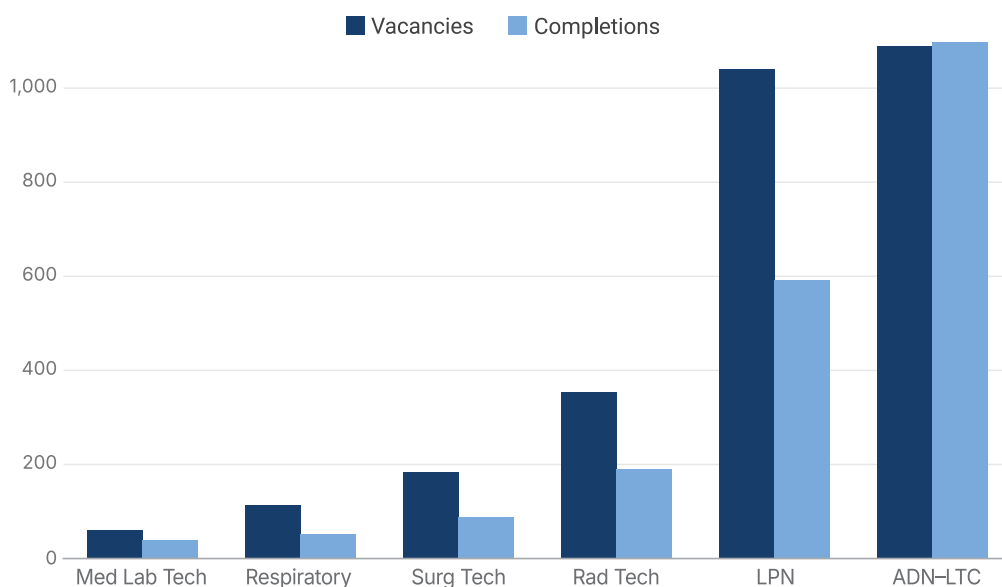
B Education programs in Massachusetts do not produce enough graduates to fill the current vacancies in these occupations; combined, the yield from these pipelines is just a small fraction of the total number of positions that employers must fill on an annual basis.

The staffing shortages leave healthcare facilities across the state operating with hundreds of vacancies in these occupations, even after filling these positions with large numbers of travelers. Facilities report that one in eight LPN positions are open. For rad tech and respiratory therapy positions, the vacancy rate is one in six, and for surg tech positions, it is one in five.

In every occupation, the number of new graduates coming through the pipeline is insufficient to fill even the number of current vacancies that facilities are seeking to staff immediately (Figure 2). (While there are more ADN graduates than current vacancies in long-term care, there are undoubtedly some vacancies in acute care that graduates could fill.)

Fresh graduates are just one source of new hires; employers certainly need to fill some openings with experienced workers. However, it is both telling and concerning that the graduate pipeline is so small relative to the amount of hiring occurring on an annual basis. The employers in the sample reported hiring more than 7,000 workers in the six key occupations over the past year. Extrapolating from this figure based on their overall share of Massachusetts employment in these fields, we estimate a total annual hiring need of 17,000 workers. In comparison, the education pipeline produced just 2,000 fresh recruits, according to the latest available data.

Figure 2. Current vacancies versus annual certificate/degree completions

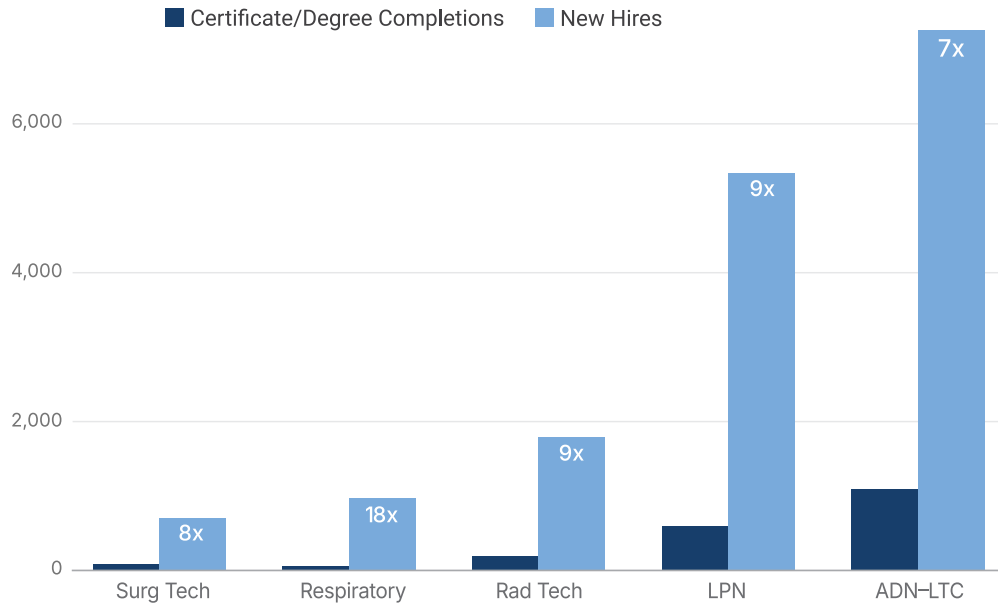


Note: Vacancy data were only available for ADNs working for long-term care employers. Actual vacancies are likely much higher given the wide variety of settings where ADNs are employed.

Source: Employer surveys, IPEDS, and Massachusetts Board of Registration in Nursing

The mismatch between the number of annual graduates and the number of workers hired in these occupations is largest for respiratory therapy, where there are 18 times more hires than graduates, followed by rad techs, LPNs, and surg techs (Figure 3).

Figure 3: Annual new hires versus annual certificate/degree completions, by occupation



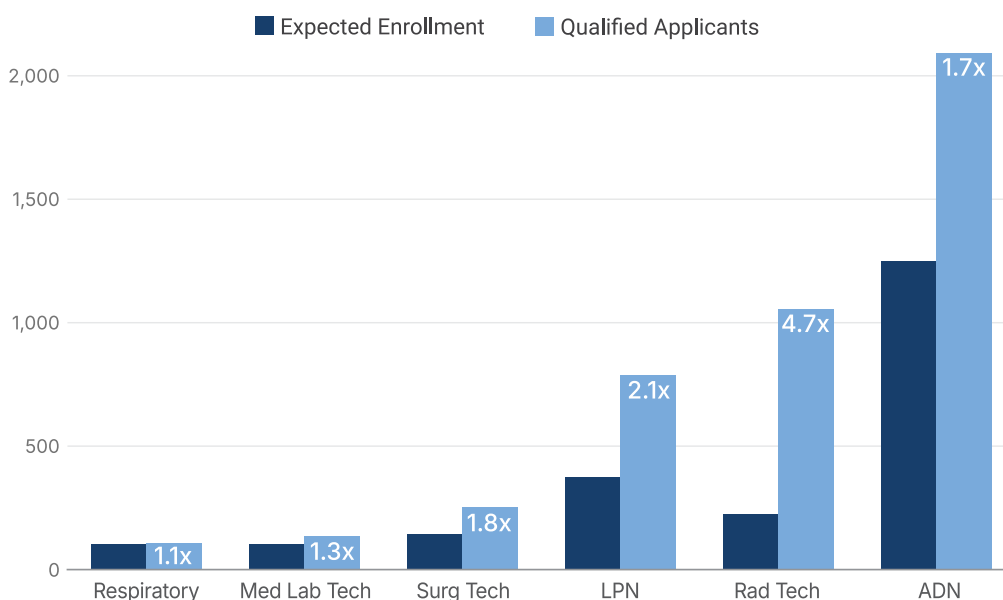
Completions for surg tech, respiratory, and rad tech from 2024 IPEDS; LPN and ADN from 2025 BORN report. Med lab tech excluded because lab hiring data are unavailable. ADN only includes hiring by long-term care facilities.

Source: Employer survey, IPEDS, and Massachusetts Board of Registration in Nursing

C The number of qualified students seeking education for these occupations from Massachusetts community colleges exceeds programmatic capacity by a ratio of 2:1. Community college programs for these six occupations currently draw about 4,500 qualified applicants, but they only have the capacity to enroll around 2,200 students. In every occupation except respiratory therapy, there are more qualified applicants than seats (Figure 4). The imbalances are most severe for rad tech (5:1) and LPNs (2:1). While many of these programs have had lengthy waitlists for years, competition for limited seats has become much more severe with the introduction of free community college.

Still, there are sizable ranges across colleges and programs. In associate degree registered nursing, for example, the range is from 1:1 to 5:1. In rad tech, the range is from 1:1 to 7:1. These variations do not appear to reflect differences in regional employer demand. While some applicants may apply to multiple programs, this is not a major contributor to the gap between individual applicants and programmatic capacity.

Figure 4. Expected enrollment in certificate/degree programs versus qualified applicants, 2026-2027 academic year



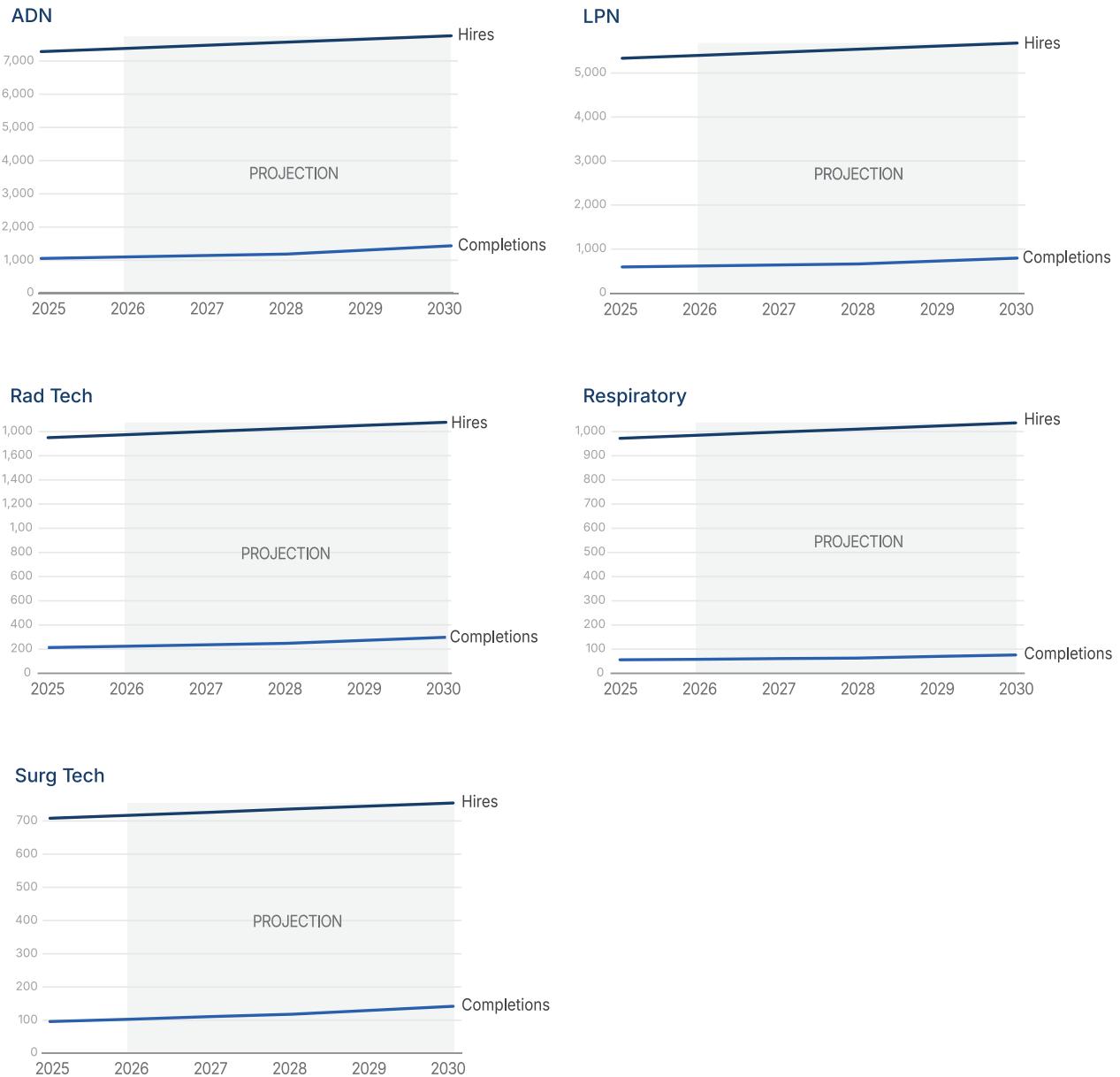
Source: Data reported by programs

D While many programs are working to increase their capacity, planned expansion is far below what is required to meet current and future workforce needs. Across the six programs combined, planned expansion over the next two to three years is around 400 seats, or roughly 20 percent more than expected enrollment for the fall of 2026. Programs report plans to add the most capacity in surg tech (34 percent) followed by rad tech (22 percent) and respiratory therapy (19 percent).

If programs continue to grow at this pace through the end of the decade and completion rates hold steady, the gap between hires and graduates coming through these education pipelines will widen slightly. However, this supply-and-demand forecast is based on a linear projection of healthcare utilization drawing on historical

growth rates. If increasing demand for health services accelerates in the coming years, as BLS analysis indicates, the gap between workforce demand and the state's education pipeline will grow, and the pipeline will be able to provide less than 10 percent of the required workers by 2030 (Figure 5).⁴

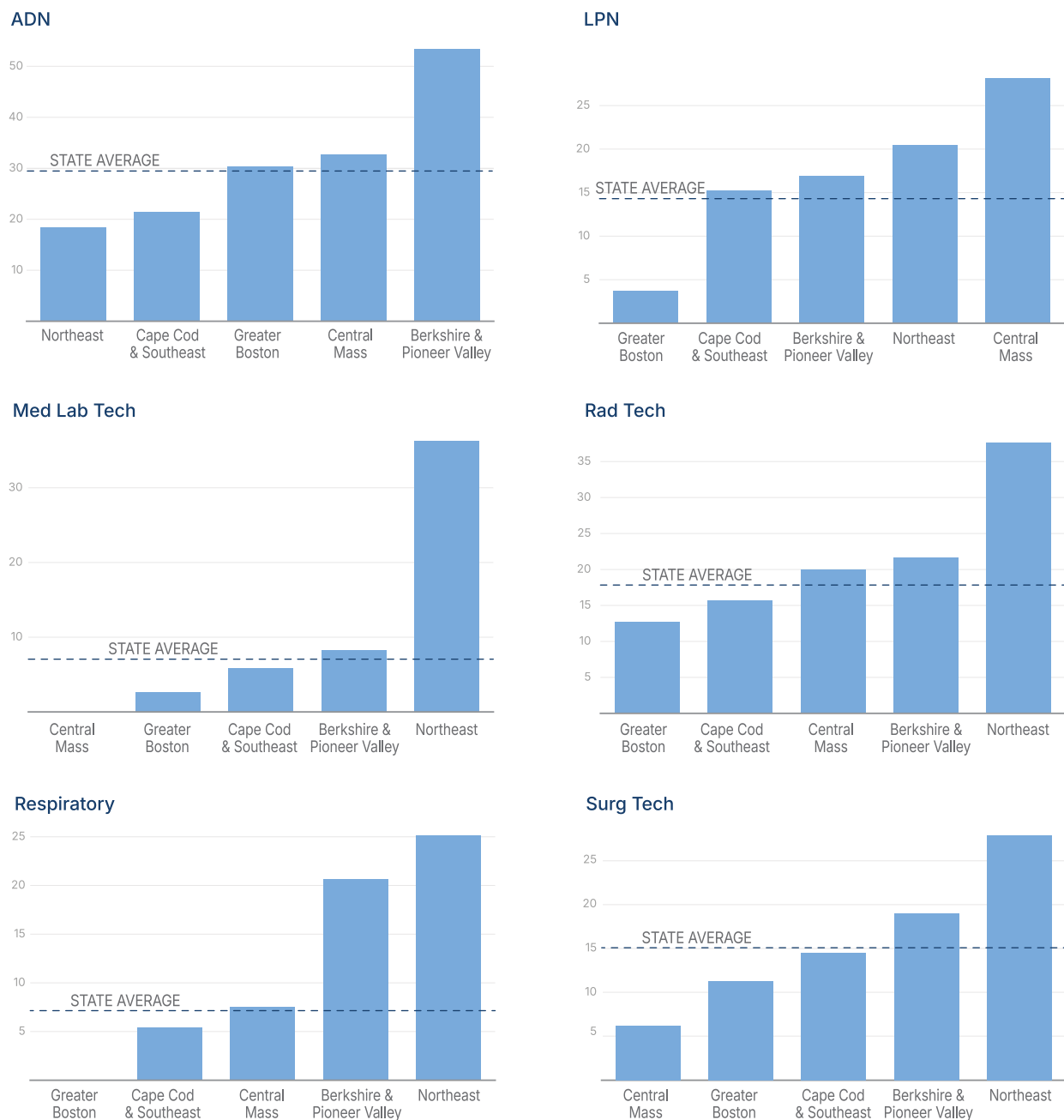
Figure 5. Projected growth in occupational hiring versus projected growth in certificate/degree completion, 2026–2030



Note: Hiring growth forecast linear projection based on 2016 to 2025 hospital utilization data (total bed days) from CHIA. Certificate/degree growth projection based on programs sustaining reported anticipated expansion over the next two to three years at similar rate through 2030.

E Large geographic gaps in education capacity exacerbate the workforce shortage and the problems it presents for both patients and employers in some parts of the state. Based on the region's share of licensed beds, education capacity in Greater Boston falls below the state average for all of these occupations with the exception of ADN, and the region has no education programs that prepare respiratory therapists. Central Mass has no education programs for med lab tech. All of the regions have both ADN and LPN programs, but there are stark differences in program availability across regions (Figure 6).

Figure 6. Entering cohort enrollment per 1,000 beds, 2026



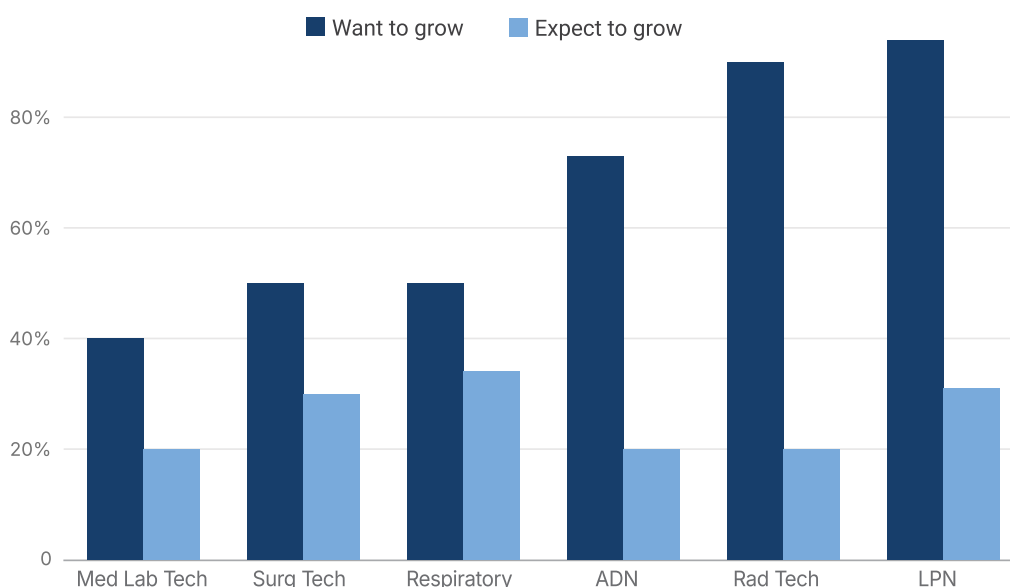
Note: Data reported by programs. Ratios for ADN and LPN calculated using all DPH-licensed facilities, all others calculated with acute care beds only. Regions without bars have no programs enrolling students in 2026.

2

Barriers to Expanding Allied Health Education Capacity

While health deans and program leaders overwhelmingly want to expand enrollment further to serve qualified students and meet industry needs, few believe they will be able to do so. Beyond a small number of new programs launching this year, there are no significant expansions in the pipeline, and projected growth is limited to modest increases in existing programs (Figure 7).

Figure 7. Percent of programs that report a desire to increase capacity versus the percent that expect further growth



Source: Data reported by programs

Interviews with higher education leaders pointed to various barriers to growth. However, they strongly and consistently emphasized the need to address three interconnected barriers to meaningfully increase capacity in these programs. Some of the challenges can be sourced to national accreditation demands, but many are the result of decisions made by Massachusetts employers, educators, policymakers, regulators, and administrators.

A **Insufficient clinical placements (85 percent of programs cited this as a top barrier).** Clinical placements are the primary constraint on enrollment because they determine the number of students that programs can admit. This challenge is pervasive but most severe for LPNs, rad techs, and med lab techs.

KEY BARRIERS INCLUDE:

- Too few clinical placement opportunities due to staffing shortages and burnout.
- Accreditation and regulatory requirements that limit who can supervise students and where clinical experiences can occur.

- Insufficient qualified preceptors and dedicated clinical educators.
- Competition for placements from both in- and out-of-state programs.
- Loss of education sites through hospital closures or service reductions.
- Lack of predictable, long-term commitments from healthcare providers for clinical placements.

B Faculty and program leadership shortages (81 percent of programs cited this as a top barrier).

Programs cannot expand without qualified faculty and program leaders, yet recruiting and retaining talent for these positions has become increasingly difficult for all programs, especially in practical nursing and registered nursing.

KEY BARRIERS INCLUDE:

- Faculty salaries that cannot compete with clinical practice wages.
- Accreditation and state qualification requirements that significantly limit the eligible candidate pool.
- Retirements and workforce turnover.
- Geographic limitations in recruiting qualified educators.
- Required faculty-to-student and laboratory staffing ratios that constrain enrollment growth.

C State regulatory barriers (74 percent of nursing programs cited this as a top barrier). State regulations create additional constraints for practical nursing and registered nursing programs beyond national accreditation standards.

KEY BARRIERS INCLUDE:

- Program growth effectively capped through unsupportive regulatory approval and compliance processes and postures.
- Faculty qualification requirements that exceed workforce availability.
- Mandated staffing structures that increase program costs and reduce financial sustainability.
- Clinical education requirements that exceed available placement capacity.
- Regulations and requirements that lack transparency, consistency, and alignment with today's healthcare workforce needs.

Expanding the healthcare workforce pipeline requires addressing all three barriers simultaneously. In our interviews, some health department deans raised the issue of cost as a barrier to growth, but cost did not rise above clinical placements, staffing, and state regulatory challenges as the top barriers. There may be broader demographic, policy, and institution-specific conditions that raise this to a top issue. Further exploration is warranted. Regardless, increasing funding for education programs alone will not substantially increase graduates unless clinical placement, capacity, and regulatory constraints are also addressed.

3

The Cost of a Narrow and Severely Constrained Pipeline

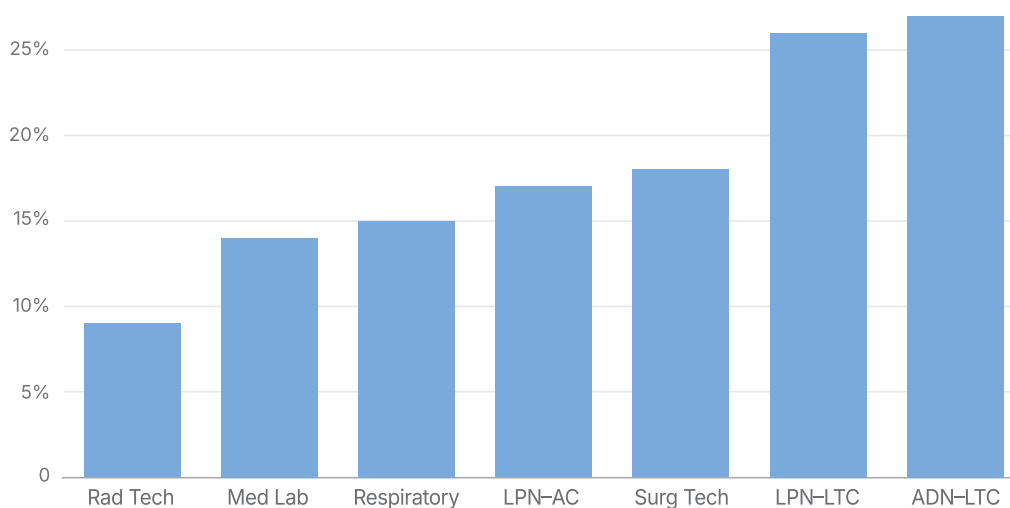
The impact of the shortage of qualified workers across these six occupations extends far beyond hiring challenges; it directly affects the ability of healthcare providers to deliver timely, high-quality care. Workforce shortages across healthcare organizations, education providers, and state systems contribute to reduced access to patient care, delayed movement of patients between care settings, longer emergency department wait times due to a lack of available inpatient and post-acute care beds, and strained finances for hospitals and post-acute care facilities. These systemwide impacts have been well documented by the Massachusetts Health & Hospital Association, including in its 2023 *A Clogged System* report and subsequent analyses of acute and post-acute care workforce shortages.⁵

The surveys conducted for this report reveal the costs of a narrow and severely constrained pipeline across multiple dimensions. Three stand out:

A The high cost of staff turnover. In occupations facing severe labor shortages, persistent turnover creates a costly cycle that undermines the quality, accessibility, and affordability of care (Figure 8). Recruiting, hiring, onboarding, and educating replacement employees require significant financial resources. Replacing a registered nurse can cost tens of thousands of dollars, with total turnover costs often exceeding a nurse's annual salary once lost productivity and vacancy costs are considered.⁶ Frequent turnover also disrupts care teams, erodes institutional knowledge, and places additional strain on remaining staff, increasing burnout and the likelihood of further departures.⁷ These workforce disruptions have important consequences for patients as well, including issues with continuity of care and adverse events.⁸

The data reported by employers show very high staff turnover rates in these occupations. For long-term care facilities, more than a quarter of LPNs left their positions in the past year. The turnover rate was equally high for ADNs in acute care hospitals. Nearly one-fifth of surgical technicians left their positions over the past year. While lower, turnover rates for respiratory therapists and med lab technicians still present cause for concern.

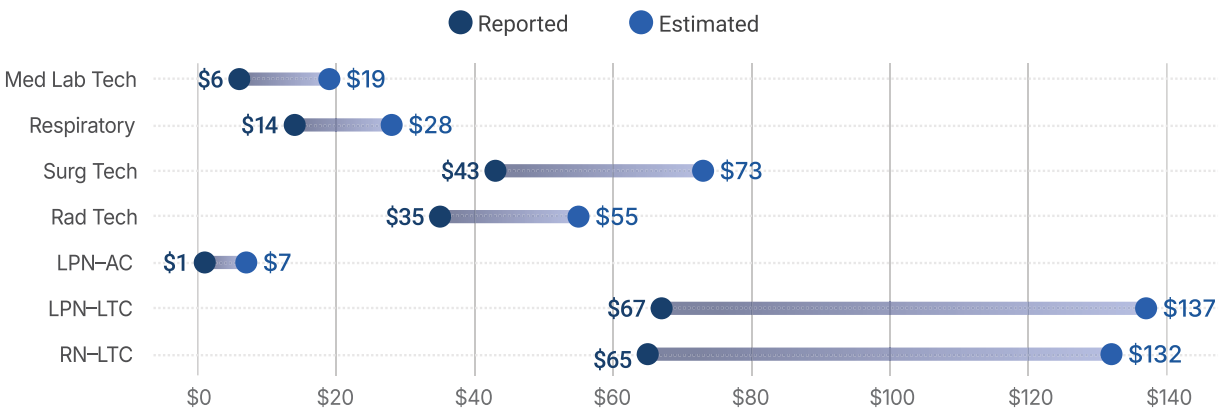
Figure 8. Turnover rate by occupation



Source: Employer survey

B The high cost of travelers. Healthcare employers are incurring substantial financial costs to fill workforce gaps. Survey respondents for both acute and long-term care organizations reported a combined \$232 million in annual spending on temporary agency staff (Figure 9). Extrapolating from these figures, the actual agency spend for these six occupations alone likely exceeds \$450 million. Employers spend an estimated \$55 million annually on traveling rad techs, more than \$73 million on surg techs, and nearly \$30 million on respiratory therapists. These estimates are inline with stubbornly high travelers expenses reported by CHIA, particularly in the allied health fields.

Figure 9: Cost of travelers as reported by survey respondents and total estimated cost (\$ millions)



The RN-LTC category includes both ADNs and those with more advanced training. However, ADNs do make up the majority of RNs in these settings. While this combined category inflates actual costs, any overestimate here is likely offset by ADNs in acute care. Data for this group are unavailable and not included in the total estimate for traveler expenses.

Source: Employer survey

C The high cost of lost economic opportunity. Beyond the impact on healthcare organizations, these vacancies represent a missed economic opportunity for Massachusetts residents. As MassINC Policy Center research documents, the certificates and degrees in health fields granted by community colleges provide significant upward mobility with earnings gains for low-income students and students of color that are at least as large as or larger than those for their peers.⁹ Community college students who are unable to enroll in these programs often fall back on other degrees that provide far less labor market benefit.

With more and more students enrolling in community colleges, underserved students may have more difficulty getting spots in these severely constrained programs. Addressing the education bottlenecks identified in this report is therefore an imperative for both healthcare and equitable economic opportunity.

4

Our Call to Action

Education providers and healthcare providers overwhelmingly identified three barriers that limit their ability to expand enrollment and produce more graduates:

- Insufficient clinical placements
- Faculty and program leadership shortages
- State regulatory barriers (for nursing programs)

Across the commonwealth, colleges and healthcare employers are already implementing innovative solutions to overcome these challenges. Some of these include expanding clinical placements through evening, weekend, and staggered scheduling; increasing the use of simulation and nontraditional clinical settings; developing apprenticeship and learn-and-earn models for students, faculty, and preceptors; sharing human resources between employers and educational institutions; using healthcare facilities as classrooms and labs; and exploring alternative clinical supervision models that maximize limited preceptor and educator capacity while maintaining quality and compliance.

These efforts demonstrate that progress is possible, but they remain localized, and programs indicate that they will not be sufficient to meet the scale of the workforce shortage. The commonwealth's healthcare workforce challenges require a coordinated, statewide strategy that brings together healthcare providers, education institutions, regulators, employers, and policymakers to remove systemic barriers and accelerate workforce growth.

A successful strategy should focus on four priorities that are within the span of control of Massachusetts educators, employers, regulators, administrators, and policy-makers:

- 1 Expanding clinical education capacity** by increasing the number, flexibility, and efficiency of clinical placements and clinical educators.
- 2 Strengthening the educator workforce** by addressing faculty compensation gaps.
- 3 Creating a state regulatory environment supportive of** expanding nurse education capacity and associated increased flexibilities required.
- 4 Developing longitudinal data systems** to follow students through education, licensing, and into the workforce.

The commonwealth's healthcare workforce challenges require a coordinated, statewide strategy that brings together healthcare providers, education institutions, regulators, employers, and policymakers to remove systemic barriers and accelerate workforce growth.

There are many viable approaches to accomplish these four aims. Identifying the most impactful and implementing them will require cross-sector leadership and collaboration. During the pandemic, Massachusetts demonstrated that this was possible. Thanks to these efforts, healthcare workforce shortages are less intense, but only by a degree. The longer they persist, the greater toll they will take on both the state economy and the well-being of all Massachusetts residents.

Solving the allied health workforce crisis will require involvement and commitment from all relevant stakeholders. To that end, we are strongly urging leaders from across state agencies, education, healthcare employers, and other key stakeholders to convene a time-limited task force to collaboratively strategize and implement solutions to the challenges presented in this report.

Data and Methods

In the spring of 2026, we interviewed leaders from 27 of the 30 Massachusetts institutions that currently offer—or plan to launch this fall—the certificate and degree programs associated with the six target occupations. Participants included health deans and/or health program leaders from all 15 Massachusetts community colleges, eight of the 10 vocational technical schools offering licensed practical nursing programs, and four of the five private higher education institutions with relevant programs.

Interviews were conducted with 89 percent of licensed practical nursing program providers, 95 percent of registered nursing program providers, and 100 percent of surgical technology, radiologic technology, respiratory therapy, and medical/clinical lab tech providers.

Information was gathered on:

- Capacity limits
- Expected 2026–2027 program enrollment
- Numbers and trends in qualified applicants vs. enrollments
- Trends in graduation and licensing exam pass rates
- Aspirations and plans for future program growth
- Barriers to future program growth
- Approaches to increasing seat capacity

We supplemented these interviews and surveys with certificate and degree completion data from the US Department of Education’s Integrated Postsecondary Education Data System (IPEDS) and the Massachusetts Board of Registration in Nursing, employment and wage data from the US Bureau of Labor Statistics’ (BLS) Occupational Employment and Wage Statistics program, and hospital and workforce data from the Center for Health Information & Analysis. These public datasets provided historical context for the survey findings and established the baseline employment and education trends needed to extrapolate survey results to the statewide workforce.

To better understand current workforce demand and how employers staff these occupations, the Massachusetts Health & Hospital Association (MHA) and Mass Senior Care Association surveyed human resource leaders from acute care hospitals and long-term care providers. Together, survey respondents employ approximately two-thirds of Massachusetts workers in these six occupations.

Data collection focused on:

Workforce Demand

- Current vacancies
- New hires during the previous 12 months
- Turnover trends
- Time-to-fill metrics
- Projected workforce needs

Agency and Traveler Utilization

- Reliance on temporary staffing
- Costs associated with agency personnel
- Operational impacts of workforce shortages

Clinical Placements

- Current placement capacity
- Opportunities for expansion
- Barriers to increasing placements
- Resource requirements for student supervision

Education Partnerships

- Existing partnerships
- Successful workforce pipeline initiatives
- Opportunities for expansion

The value in this effort lies largely in the survey and interview findings, but like all such research approaches, they are subject to interpretation and error. We made our best attempt to accurately capture survey and interview responses.

Licensed Practical Nursing

LPNs are most commonly employed in non-acute care settings, predominantly in long-term care and other post-acute care settings (41 percent), and to a lesser extent, ambulatory care (17 percent) and home health care (12 percent).¹⁰ With the current RN shortage, LPNs are increasingly being brought back into acute care, mainly in community and rural hospitals with fewer complex patient care needs and less access to an abundance of registered nurses.

Hospitals in the MHA survey provided information on their LPN hiring. Additionally, given the high utilization of LPNs in long-term care, MHA collaborated with Mass Senior Care Association to survey long-term care facilities on their employment and vacancy data for this role. Survey responses represent 49 percent of skilled nursing facility beds in the commonwealth.

Registered Nursing

Collecting workforce data on ADN was the most challenging of the six focus occupations. Acute care employers do not consistently differentiate ADN and BSN registered nurses in their human resource systems. Accordingly, the employer data below is presented from the Mass Senior Care survey of long-term care facilities only. Many respondents to the Mass Senior Care survey do not distinguish between ADN and BSN registered nurses, but we know anecdotally that most registered nurses in long-term care are ADNs.

Radiologic Technology

The MHA survey sought information on associate degrees in radiologic technology (sometimes referred to as radiography). Some MHA survey respondents were not able to tease out associate degree radiologic technologists from other higher skilled/higher education imaging roles, but we have a high degree of confidence that the data presented below captures the direction of the associate degree workforce and hiring.

Medical/Clinical Laboratory Technician

Medical/Clinical Laboratory Technicians are primarily employed by hospitals and other medical and diagnostic laboratories. Because the MHA survey focused on hospitals, data for other medical and diagnostic labs are not included in this report. As such, hiring needs below are significantly underestimated.

Summary of education and workforce pipeline metrics by occupation

Source	Surg Tech	Rad Tech	Respiratory	Med Lab Tech	LPN-LTC	LPN-AC
Employer Survey						
New hires by source	408	608	276	261	3,500	156
% New graduates	58%	58%	38%		17%	30%
% Experienced workers	30%	25%	60%		75%	68%
% Incumbent workers unskilled	12%	17%	3%		8%	1%
New hires by status						
% Permanent	53%	38%	42%	75%	NA	85%
% Per diem	10%	20%	33%	16%	NA	8%
% Agency	37%	41%	26%	8%	NA	7%
Number of agency hires	151	249	72	21	NA	11
Total agency spend	\$43,342,520	\$34,838,543	\$15,157,732	\$5,622,308	\$66,916,654	\$1,622,350
Turnover rate	18%	9%	15%	14%	26%	17%
Vacancy rate (median)	18%	17%	12%	7%	12%	14%
Number of vacancies	184	215	124	60	1,040	89
Estimated vacancies (all employers)	247	377	157	125	NA	121
Current FTEs (survey respondents)	1279	1768	1420	1414	NA	786
Agency staff % of total FTEs	12%	12%	7%	2%	NA	2%
Hiring plans for coming year						
More	41%	44%	32%	6%	NA	12%
Same	28%	6%	22%	29%	NA	35%
Fewer	14%	0%	3%	13%	NA	8%
Unsure	17%	50%	43%	52%	NA	50%

Source	Surg Tech	Rad Tech	Respiratory	Med Lab Tech	LPN-LTC
Program Interviews					
Estimated enrollments, 2026–2027 (entering cohort only)	200	260	100	100	875
Expected enrollments, 2028–2029 (entering cohort only)	260	310	120	115	975
Qualified applicants to enrollment capacity ratio, 2026–2027					
Average	1.8	4.7	1.1	1.3	2.1
Range	1.0–3.3	1.0–7.1	1.0–1.3	1.0–2.8	1.0–3.3

List of Hospitals and Health System Respondents to MHA Survey

Baystate Health

- Baystate Franklin Medical Center
- Baystate Medical Center
- Baystate Noble Hospital
- Baystate Wing Hospital

Berkshire Health Systems

- Berkshire Medical Center
- Fairview Hospital
- North Adams Regional Hospital

Beth Israel Lahey Health

- Anna Jaques Hospital
- Beverly Hospital
- Beth Israel Deaconess Hospital–Milton
- Beth Israel Deaconess Hospital–Needham
- Beth Israel Deaconess Hospital–Plymouth
- Beth Israel Deaconess Medical Center
- BILH Primary Care
- Lahey Clinic
- Mount Auburn Hospital
- New England Baptist Hospital
- Winchester Hospital

BMC Health System

- Boston Medical Center
- Boston Medical Center–Brighton
- Boston Medical Center–South

Cambridge Health Alliance

Cape Cod Healthcare

- Cape Cod Hospital
- Falmouth Hospital

Encompass Health

- Encompass Rehabilitation Hospital of New England
- Encompass Rehabilitation Hospital of Western Massachusetts

Heywood Healthcare

- Athol Hospital
- Heywood Hospital

Holyoke Medical Center

Mass General Brigham

- Brigham and Women's Hospital
- Brigham and Women's Faulkner Hospital
- Brigham and Women's Physician Organization
- Cooley Dickinson Hospital
- Martha's Vineyard Hospital
- Mass General Brigham Home Care
- Mass General Brigham Medical Group
- Mass Eye and Ear Associates
- Massachusetts General Hospital
- McLean Hospital
- Nantucket Cottage Hospital
- Newton-Wellesley Hospital
- North Shore Medical Center
- Spaulding Hospital Network

Southcoast Health System

- Southcoast Health at Home
- Southcoast Hospital Group
- Southcoast Physician Group

Sturdy Health

Tufts Medicine

- Lowell General Hospital
- MelroseWakefield Hospital
- Tufts Medical Center

UMass Memorial Health Care

- UMass Memorial Health–Harrington Hospital
- UMass Memorial Health–HealthAlliance–Clinton Hospital
- UMass Memorial Health–Milford Regional Medical Center
- UMass Memorial Medical Center
- UMass Memorial Medical Group

Nursing and Allied Health Education Programs by Institution

School	LPN	ADN	Med Lab Tech	Surg Tech	Respiratory	Rad Tech
Assabet Valley Regional Technical High School	Yes	No	No	No	No	No
Bay Path University	No	Yes	No	No	No	No
Berkshire Community College	Yes	Yes	No	No	Yes	No
Blackstone Valley Regional Vocational Technical High School	Yes	No	No	No	No	No
Bristol Community College	No	Yes	Yes	No	No	No
Bristol-Plymouth Regional Technical School	Yes	No	No	No	No	No
Bunker Hill Community College	No	Yes	Yes	Yes	No	Yes
Cape Cod Community College	No	Yes	No	No	No	No
Curry College	No	Yes	No	No	No	No
Diman Regional Vocational Technical High School	Yes	No	No	No	No	No
Greenfield Community College	Yes	Yes	No	Yes	No	No
Greater Lowell Technical High School	Yes	No	No	No	No	No
Holyoke Community College	Yes	Yes	No	No	No	Yes
Lasell University	No	No	No	Yes	No	Yes
Mass Bay Community College	Yes	Yes	No	Yes	No	Yes
Massasoit Community College	No	Yes	No	No	Yes	Yes
McCann Technical School	Yes	No	No	No	No	No
Middlesex Community College	No	Yes	Yes	Expected	No	Yes
Montachusett Regional Vocational Technical School	Yes	No	No	No	No	No
Mount Wachusett Community College	Yes	Yes	No	No	No	No
Northern Essex Community College	Yes	Yes	Yes	Yes	Yes	Yes
North Shore Community College	Yes	Yes	No	Yes	Yes	Yes
Quincy College	Yes	Yes	No	Yes	No	Yes
Quinsigamond Community College	Yes	Yes	No	Yes	Yes	Yes
Regis College	No	Yes	No	No	No	No
Roxbury Community College	No	Yes	No	No	No	Yes
Shawsheen Valley Technical High School	Yes	No	No	No	No	No
Southeastern Regional Vocational Technical High School	Yes	No	No	No	No	No
Springfield Technical Community College	No	Yes	Yes	Yes	Yes	Yes
Upper Cape Cod Regional Vocational Technical School	Yes	No	No	No	No	No

ENDNOTES

- 1 "Frontline of the Economy: The Ripple Effects of Massachusetts Healthcare." (Burlington, MA: Massachusetts Health and Hospital Association, 2026). Accessed at: <https://www.mhalink.org/reportsresources/impact2026>
- 2 Gross state product estimate from the US Bureau of Economic Analysis based on output for the health and social assistance sector (NAICS Code 62).
- 3 The Massachusetts Legislature created MassReconnect for adults 25 and older in 2023. In 2024, it expanded on the model to make community college free for most students of all ages without a postsecondary degree. For analysis on the enrollment impacts, see: Shaun Dougherty and others. "Early Returns: Reversing Enrollment Declines in Massachusetts Community Colleges through MassReconnect." (Boston, MA: BU Wheelock Educational Policy Center, 2026).
- 4 For BLS projections, see: <https://www.bls.gov/opub/mlr/2026/article/industry-and-occupational-employment-projections-overview.htm>.
- 5 "A Clogged System: Keeping Patients Moving Through their Care Journey." (Burlington, MA: Massachusetts Health and Hospital Association, 2023). Accessed at: <https://www.mhalink.org/reportsresources/acloggedsystem/>.
- 6 Cheryl Bland Jones and Michael Gates. "The Costs and Benefits of Nurse Turnover: A Business Case for Nurse Retention." *Online Journal of Issues in Nursing* 12.3 (2007).
- 7 Sung-Heui Bae. "Comprehensive Assessment of Factors Contributing to the Actual Turnover of Newly Licensed Registered Nurses Working in Acute Care Hospitals: A Systematic Review." *BMC Nursing* 22.1 (2023).
- 8 Lambert Zixin Li and others. "Nurse Burnout and Patient Safety, Satisfaction, and Quality of Care: A Systematic Review and Meta-Analysis." *JAMA Network Open* 7.11 (2024); Peter Van Bogaert and others. "Practice Environment, Work Characteristics and Levels of Burnout as Predictors of Nurse Reported Job Outcomes, Quality of Care and Patient Adverse Events." *Open Journal of Nursing* 4.5 (2014).
- 9 Alicia Sasser Modestino and others. "Pathways to Economic Mobility: Identifying the Labor Market Value of Community College in Massachusetts." (Boston, MA: MassINC, 2021).
- 10 See: <https://www.mass.gov/info-details/registered-nurse-rn-health-professions-interactive-data-dashboard>.

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ABOUT THE MASSINC POLICY CENTER

The MassINC Policy Center generates research to frame pressing issues, identify actionable solutions, and monitor progress. The Center favors a collaborative approach, engaging with state and local officials and civic leaders to surface problems and actionable strategies to address them. We strive to produce timely and accurate information that leaders can rely on when tasked with making difficult choices.

ABOUT THE MASSACHUSETTS ASSOCIATION OF COMMUNITY COLLEGES

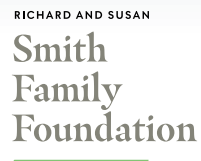
The Massachusetts Association of community Colleges (MACC) supports the Commonwealth's 15 community colleges through the establishment and implementation of statewide initiatives and by convening stakeholders—both at the campus level and externally—to reach shared goals. By maintaining a high-level strategic focus, MACC supports projects and initiatives at the colleges that can impact student outcomes and support the Commonwealth's goals in areas like workforce development.

ABOUT THE MASSACHUSETTS HEALTH AND HOSPITAL ASSOCIATION

The Massachusetts Health & Hospital Association (MHA) is a voluntary, not-for-profit organization comprised of hospitals, health systems, caregivers, related organizations, and other members with a common interest in promoting the good health of the people of the commonwealth. Through leadership in public advocacy, education, and information, MHA represents and advocates for the collective interests of its members and supports their efforts to provide high quality, cost effective, and accessible care.

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