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Covista Healthcare Workforce Index

Sizing and solving the healthcare workforce gap by 2040

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View the Index online at:
covista.com/covista-healthcare-workforce-index

Covista Healthcare Workforce Index: what's at stake

America's healthcare workforce shortage—the gap between the current number of healthcare workers and the number needed to meet America's needs—is not a future risk—it's here, it's large, it's structural and it may be costing more than most people realize. This isn't just a staffing problem. It's a hidden cost on every American family. The stakes are concrete, not hypothetical. The ***Covista Healthcare Workforce Index*** (the "Index") is based upon a model by Oliver Wyman and according to that model, there are measurable implications:

What the shortage costs.

The model estimates that unfilled positions drive $46 billion a year in avoidable healthcare costs—roughly $430 per family annually. Left unaddressed, that figure could nearly triple to $140 billion, or $1,250 per family, by 2040 with 7% of the annual growth attributable to inflation (both consumer price index and medical inflation).

What closing the shortage saves.

The model estimates that closing the nursing shortage alone could save over 9,000 lives a year—nearly 100,000 lives cumulatively by 2040. Closing the physician gap could add over six months to average life expectancy. Closing the specialist gap could cut wait times by 20%.

Closing the nurse gap could save nearly

100K lives

by 2040

and closing the physician gap could add

6.5 months

of life expectancy per person

and reduce specialist wait times by

20%

Charting the path to 2040

This shortage is structural and won't resolve on its own. The tools health systems have relied on for years—hiring bonuses, staffing agencies, retention bonuses, one-off AI pilots—were built for a shortage that ebbs and flows, not one that compounds. Doing more of the same won't close a gap this size. This means health system executives, policymakers, educators and clinicians working together to solve the healthcare workforce shortage.

Left unchecked, the Index estimates this shortage doubling by 2040, with the heaviest toll falling on rural and underserved communities that already wait longest for care. That future isn't inevitable if health systems, educators and policymakers take a fundamentally different approach and pull multiple levers together. Not one silver bullet. Multiple, in concert.



The opportunity now is a genuine portfolio approach with multiple interventions and multiple stakeholders, sustained together.

The Index charts that path. The levers include supply actions—investing to attract, develop and retain talent and care delivery innovations—including AI-powered solutions, breakthrough therapeutics and care model redesign where preventive medicine, primary care, alternative care delivery locations and alternative staffing models are prioritized. The Index projects the shortage through the year 2040 and estimates how much of it may close by taking a fundamentally different approach to the traditional methods. Building on the **2026 Covista Care Capacity Monitor**, this report is part of an ongoing series where Covista explores the healthcare workforce shortage and looks to identify innovative solutions and fresh perspective around how stakeholders can work together to address the structural challenges around it.

None of this is theoretical. A routine screening that prevents a disease instead of managing it for life. A specialist referral in three weeks instead of three months—catching a condition early instead of after it's advanced. A rural mother delivering close to home instead of three hours away. A nurse who builds a career instead of burning out in year two. Each is the difference between a system that works and one that doesn't.

Workforce supply actions and care delivery innovation, together, can build something better than a bigger workforce. It can build a more resilient one. A more productive one. A more fulfilled one.

Methodology

The ***Covista Healthcare Workforce Index*** is based upon a model by Oliver Wyman, a leading global management consulting firm with deep expertise in both healthcare and education. The Index incorporates 60 academic, government, industry and business data sets and academic studies plus 11 interviews with health system leaders. The Index model considers scenario based estimates for macro trends, sizes the 2040 U.S. healthcare workforce gap across outpatient, inpatient and emergency department settings on an access-adjusted basis and estimates the levers to close it.

See the Appendix for sources and assumptions (pages 28-38).

None of the modeled actions replace current workers or reduce how many the system needs by 2040—they close the gap between today's workforce and that future need with efficiency gains going toward unfilled roles and unmet demand, not job losses.

The Index models headwinds and care delivery innovation at the most likely scenario, based on current adoption trends. Supply actions are modeled at the best case: supply has historically been underinvested, and the Index is meant to project what's possible if that changes rather than projecting today's underinvestment forward.

Key Index findings: one path forward



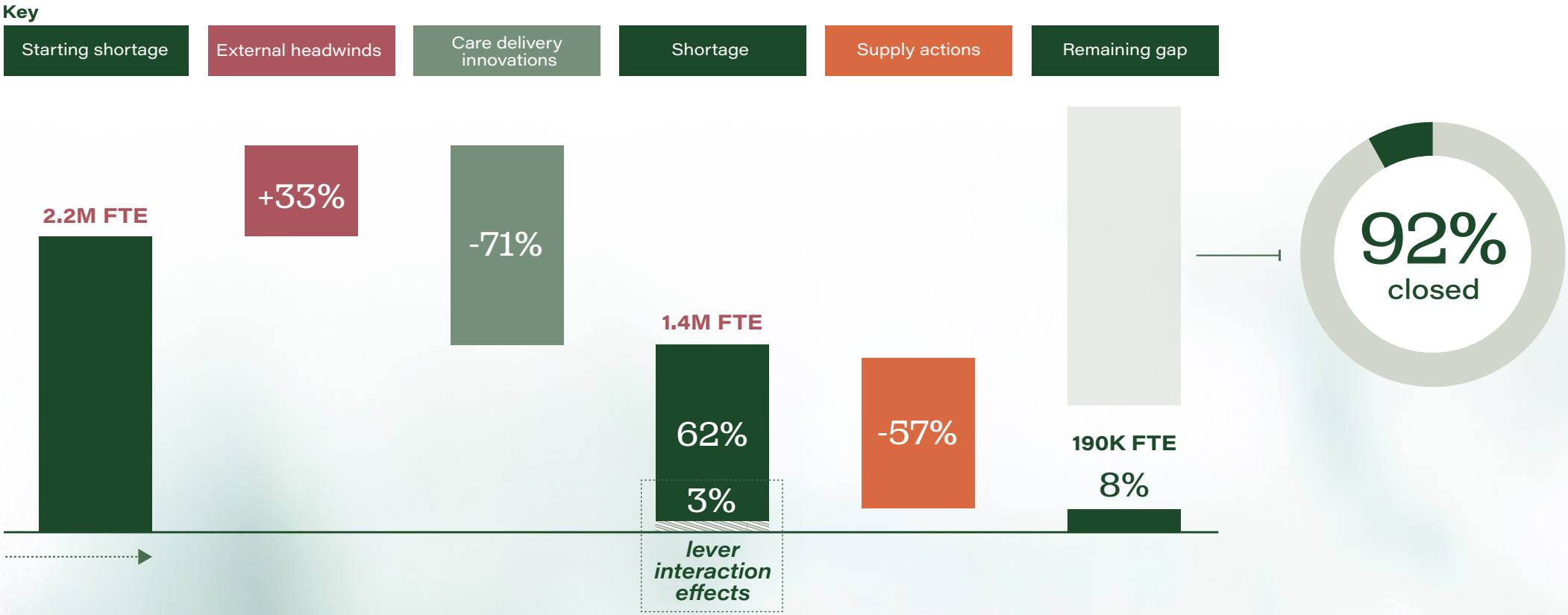
Closing the 2040 gap requires a portfolio approach

The healthcare workforce shortage is structural and structural problems demand structural solutions. The waterfall (Figure 1) on the following page—modeling results from the Index—makes it clear. No single strategy solves the workforce shortage on its own—but together, they have the potential to fundamentally change healthcare. Care delivery innovation and supply actions—attracting, developing and retaining a talent pipeline—each chip away at the gap individually and cumulatively. The model projects that closing the gap by 92% could be available when every lever is activated—which is exactly why coordinated investment is the most effective path forward.

The levers reinforce and balance each other as risks and uncertainty exist with some of the strategies. **This is where portfolio thinking pays off: leadership gets the greatest return by resourcing and executing all approaches concurrently, rather than treating them as a menu to choose from.**



Figure 1. **The Index's portfolio approach: the projected amount each lever closes by 2040**



Source: Analysis for the ***Covista Healthcare Workforce Index***.

Note: None of these levers reduce the number of workers the system needs—they close the gap between how many workers we'll need and how many we'll have. The care delivery innovations are slightly overlapping, so their impact together is slightly less than the total of each lever in aggregate.

Bold supply action scenarios and most likely care delivery innovation scenarios.

The healthcare workforce shortage isn't just a staffing problem—it's a hidden cost on every American family

The modeling for the Index forecasts that today, unfilled positions drive an estimated $46 billion a year in avoidable costs for the healthcare system—driven by overtime premiums, temporary staffing and patients turning to costly ER visits when they can't get timely primary or specialty care. Left unaddressed, the same model projects that figure to nearly triple to $140 billion annually by 2040 with 7% of the annual growth attributable to inflation (both consumer price index and medical inflation). The estimate is based on published academic studies showing the correlation between labor shortages and avoidable and costly complications, hospitalizations, longer hospital stays, ED visits and use of temporary labor.

The Index also translates this cost to the family level and it isn't spread out evenly. For the average family, that's roughly $430 a year, climbing to $1,250 by 2040, according to the model. This is money spent not on better care, but on the inefficiency of not having enough people to deliver it. And this cost lands on top of an affordability crisis already straining family budgets, especially for those in rural and underserved communities, making the case for action not just a workforce imperative, but an economic one.

Figure 2. The cost of the shortage

Today, unfilled positions drive

$46B

in avoidable costs for the healthcare system

By 2040, the cost could reach*

$140B annually

For the average family, this is

$430 a year

today and could reach*

$1,250 in 2040



Source: Analysis for ***Covista Healthcare Workforce Index***.

Note: Cost per family based upon the average family size with growth projections, according to the U.S. Census.

* 7% of the annual growth is attributable to inflation (both consumer price index and medical inflation).

Closing the gap can lead to longer and healthier lives

The Index estimates the implications on health outcomes based on academic literature linking outcomes to healthcare employment per capita.

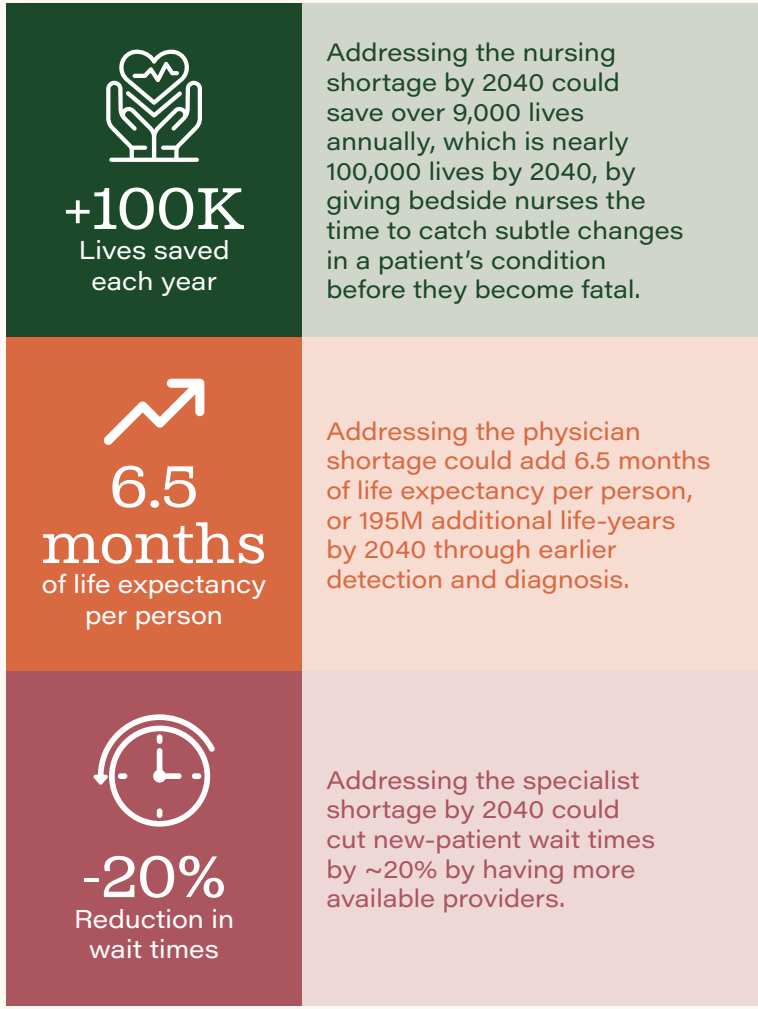
More nurses could catch problems before they become emergencies. Stretched across more patients, bedside nurses have less time to catch early warning signs—a subtle change in vitals, a slower recovery—before they escalate. Closing the nursing shortage could lead to more consistent monitoring and faster escalation and fewer preventable hospital deaths.

More physicians could mean conditions get caught and prevented or managed earlier. Better primary care access and preventive medicine mean hypertension or early-stage cancer could get caught at a routine visit versus an ER crisis—driving longer life expectancy. More specialists mean less time for disease to progress while patients wait for a referral. Longer waits in oncology or cardiology could result in a treatable condition to advance untreated.

More behavioral health specialists could mean crises are caught before they escalate. Long waits for a first appointment aren't a stable holding pattern—conditions could progress until the eventual point of contact becomes a crisis rather than routine care. Closing the behavioral health gap could lead to faster access to a first appointment and more consistent follow-up, which could keep conditions managed.

More allied health professionals could mean the diagnostic chain doesn't break. A cancer diagnosis, fracture treatment or stroke workup is only as fast as the radiology tech or lab available to complete it, regardless of how quickly the ordering clinician acted. Closing the allied health gap could mean that the imaging, lab work and other diagnostic steps that a diagnosis depends on keeps pace, rather than becoming the bottleneck.

Figure 3. Estimated benefits of addressing shortages by 2040



Source: Analysis for ***Covista Healthcare Workforce Index***.



Macro headwinds could widen the shortage further

The shortage is not static. External trends could make it materially larger in 2040. This includes continued burnout pushing clinicians to early retirement and fewer international nurses and physicians entering the U.S. workforce due to immigration restrictions to fill vacancies. The broader demographic trends that impact higher education include the slowing birth rate, changing opinions about higher education and fewer people entering college after high school.[1] The uneven distribution of the shortage shows up here too with rural and underserved communities impacted more.[2] These headwinds are outside any one actor's control. The Index estimates the magnitude of impact on the shortage based on retirement trends and general career entry rates for a range of scenarios. Workforce planning should assume a larger, more variable shortage, not a stable one.

+1.5x

relative increase in the gap due to headwinds

Source: Analysis for ***Covista Healthcare Workforce Index***.

1. Patrick Lane, Colby Falkenstern and Peace Bransberger, Knocking at the College Door: Projections of High School Graduates, 11th ed. (Boulder, CO: Western Interstate Commission for Higher Education, 2024).
2. 2026 Covista Care Capacity Monitor.

Care delivery innovation helps but isn't the whole answer

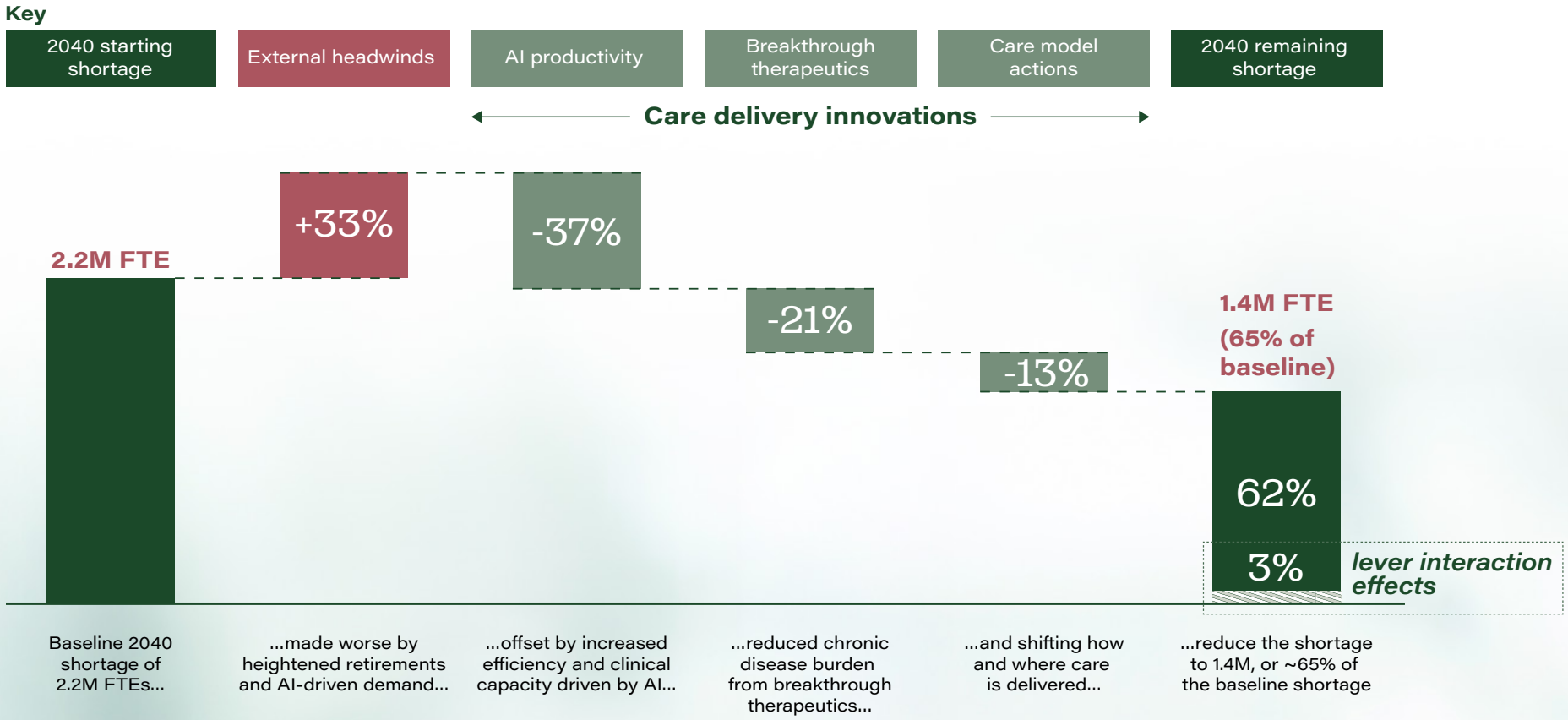
Care delivery innovations—AI, breakthrough therapeutics and care model redesign—are widely (and understandably) touted as solutions that help alleviate the workforce shortage. Nonetheless, the Index projects that the potential impact of care delivery innovation interventions is uncertain.

AI can help clinicians do their jobs—but productivity alone won't close the gap. As the industry increases its adoption of AI, the workforce could become both more productive and more fulfilled. Rather than replacing clinicians, AI's biggest near-term impact may be clearing the friction out of their day and making it easier to do their jobs. This means less time on documentation and data entry and more time on the parts of the job that drew them to healthcare in the first place. AI can most directly support clinicians by automating clinical documentation—transcribing or summarizing visit notes, drafting referral orders, pre-filling medication lists and flagging potential follow-up needs. AI could help close 37% of the 2040 gap without replacing a single healthcare worker—based on forecasted productivity gains for physicians and nurses across administrative and clinical use cases. Refer to the waterfall (Figure 4) on the following page.

That vision may be too optimistic, as adoption so far has been slow: tight budgets limit investment, and today's fragmented single purpose solutions from multiple vendors overwhelm already-stretched IT teams. Structural barriers, from nurse-patient ratio limits to trust concerns among both patients and clinicians, could further cap AI's impact. Even when health systems clear these hurdles, AI only delivers value in the hands of clinicians trained to use it well—to trust it appropriately, question its outputs and know when to override it.

Humanity is still central to healthcare. AI may be able to draft a discharge summary, flag a drug interaction or triage a patient to the optimal care setting based upon symptoms, but it currently can't build the trust that gets a hesitant patient to follow through on a treatment plan or make the judgment call in a complex case that falls outside its training data. A diagnostic algorithm can flag a concerning scan, but it takes a person to sit across from a patient, deliver that news and help them decide what comes next. Clinicians and executives on the frontlines agree: AI matters, but it isn't a fix on its own. According to the **2026 Covista Care Capacity Monitor**, 76% of healthcare executives say AI already has a positive impact on quality. But, 65% say it can help at least somewhat with the staffing shortage—which is exactly why it's one of the levers, not the whole strategy.

Figure 4. The Index's care delivery innovation detail of the 2040 healthcare workforce gap and projected amount closed by lever



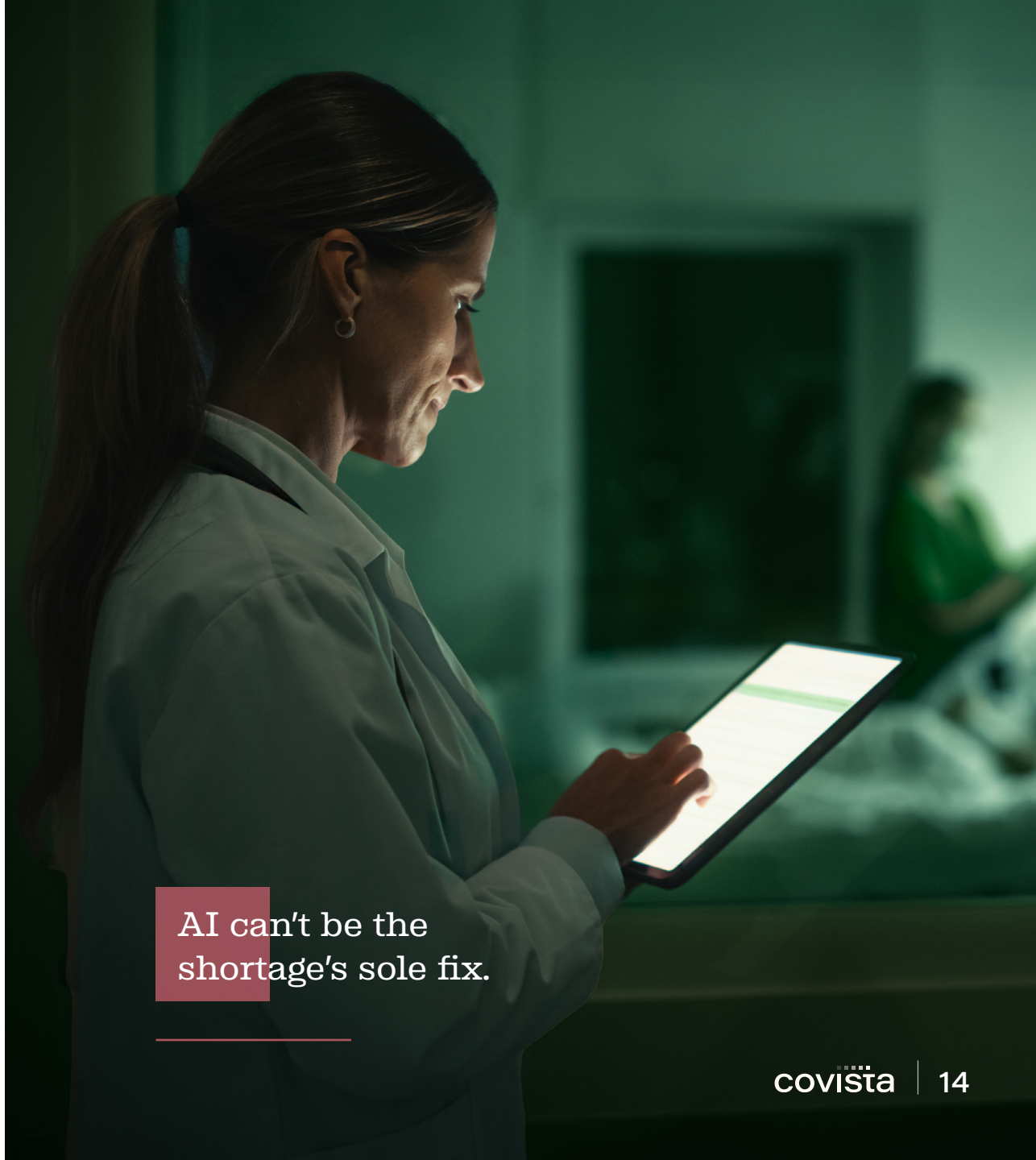
Source: Analysis for the ***Covista Healthcare Workforce Index***.

Note: None of these levers reduce the number of workers the system needs—they close the gap between how many workers we'll need and how many we'll have. The care delivery innovations are slightly overlapping, so their impact together is slightly less than the total of each lever in aggregate.

Bold supply action scenarios and most likely care delivery innovation scenarios.

AI's most promising applications may increase demand for care and the associated workforce as much as they relieve it. This isn't a flaw in the technology, but rather a sign that AI is working as intended by surfacing unmet need.

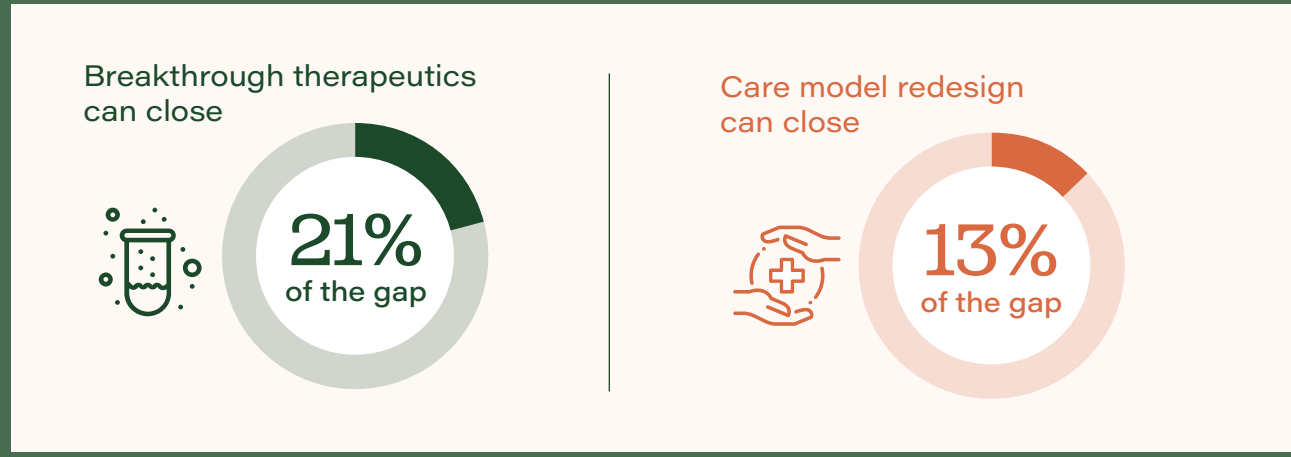
Better diagnostics catch conditions earlier and more accurately, surfacing cases that would otherwise go undetected. Easier care navigation draws in patients who previously delayed care due to cost, confusion or simply not knowing they needed it. And earlier detection—while clinically valuable—often means longer treatment timelines and more downstream care than a later diagnosis would have required. The net effect: a projected 18% increase in the 2040 gap, offsetting much of the productivity gain. AI is helping meet real, previously unmet need, which is exactly what a health system should want it to do. Which is also why AI can't be the shortage's sole fix.



AI is only one piece of the care delivery innovation lever—breakthrough therapeutics and care model redesign carry their own upside and their own conditions for realizing it.

Breakthrough therapeutics can help prevent the complications and chronic management that consume clinical capacity. GLP-1s and CAR-T cell therapy have resulted in major innovations in how care is delivered and the health of patients. These therapies address a condition's root cause and can reduce the months or years of ongoing specialist management that chronic disease would otherwise require. Breakthrough therapeutics could shrink the gap by a further 21%—an estimate driven primarily by GLP-1s, given their scale of adoption. This forecast is derived from extrapolating the effects of innovations already in the market and those still in the approvals pipeline. CAR-T and gene/cell therapies aren't reflected in the figure because their effects are still emerging and represent potential additional upside.

The opportunity for care model redesign can bolster access to primary care, letting clinicians practice to the full extent of their licenses and expand care outside of the hospital. Enacting care model redesign by routing patients to the optimal setting and practitioner can cut another 13%. Much of that opportunity starts at the front door of the system: strengthening primary care so more conditions are prevented or managed before they require an ED visit or specialist referral at all, not just redirecting patients after the fact.



Source: Analysis for ***Covista Healthcare Workforce Index***.

Realizing the potential of care delivery innovations depend on conditions outside any one lever's control. New therapeutics need affordable access and favorable reimbursement. Care model redesign needs both investment in new care settings and clinicians focused on primary care which are already in short supply to staff them. All three need supportive policy and regulation. These care delivery innovations are also slightly overlapping, so their impact together is less than the total of each lever in aggregate.

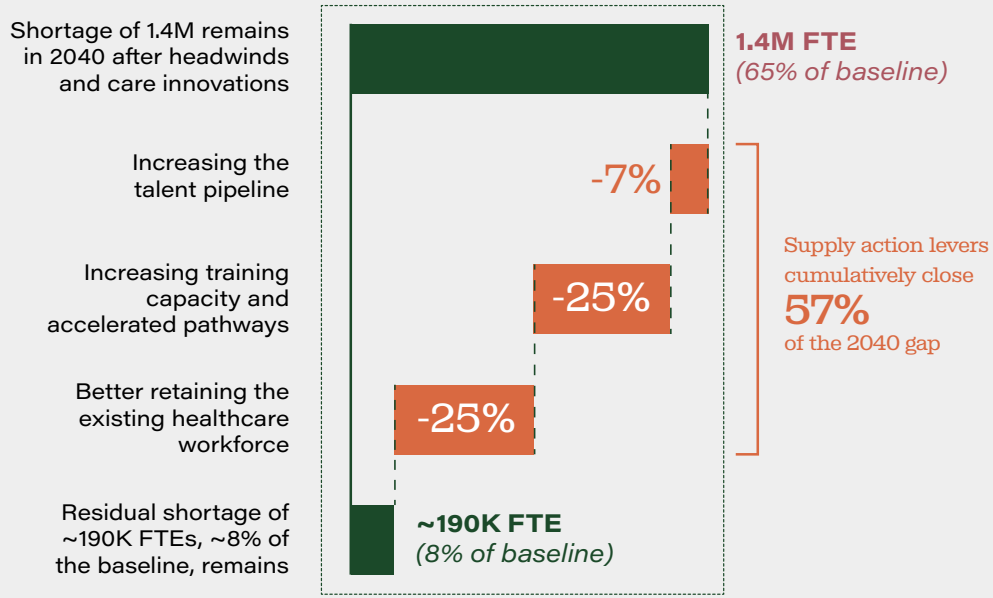
Supply actions have the potential for immense impact yet are routinely overlooked

If there's no silver bullet, the data still points somewhere specific and it's the lever most health systems have underinvested in for years. **A more sustainable workforce ultimately comes from people: bringing new entrants into the profession, training more and keeping more clinicians in the workforce.**

Investing in people, what the Index identifies as "supply actions," is estimated to be among the most reliable ways to address the shortage, and among the most overlooked by health systems.[3] Supply actions can potentially close over half of the 2040 gap.

Despite this potential, only 22% of surveyed healthcare executives report significant investment in partnerships with educators to expand the pipeline of healthcare talent according to the **2026 Covista Care Capacity Monitor**. Yet nearly 70% of healthcare executives say education partnerships are very or somewhat effective for meeting their workforce needs.

Figure 5. The Index's supply action detail of the 2040 healthcare workforce gap and projected amount closed by lever



Source: Analysis for the ***Covista Healthcare Workforce Index***.

Note: None of these levers reduce the number of workers the system needs—they close the gap between how many workers we'll need and how many we'll have.

Bold supply action scenarios and most likely care delivery innovation scenarios.



3. 2026 Covista Care Capacity Monitor.

Attracting new talent could lead to reaching people the system doesn't reach today. The traditional pipeline—recent high school graduates moving straight into a four-year, full-time program—was never built to reach everyone capable of doing this work. Non-traditional students are an untapped solution to the healthcare shortage: adult learners who are raising families and holding jobs and career changers with transferable skills.[4] They're capable of becoming the healthcare professionals their community needs because their lives have already built the skills the job demands—the patience of raising a family, the reliability of years in the workforce and lived experience with the very communities and patients they would go on to serve. What they're missing isn't ability. It's a clear, affordable, flexible path into a clinical career. Opening doors for them would benefit from expanding access to healthcare education through hybrid, flexible learning models and support for tuition and financial challenges. Particular focus is needed to reach a talent pool in rural and underserved communities where needs are greatest, but fewer education and training opportunities exist.[5]

7% of the gap could close by attracting more prospective clinicians to the talent pool

Partnerships between health systems and educators may be an effective way to attract new talent to address shortages, especially those that pair employer funded education with guaranteed employment. Solving for a structural challenge works best when stakeholders share the investment, not just the goal. Unlike competing on salary or bonuses, which redistributes the existing pool of candidates, education partnerships with health systems may create seats and clinical placements that didn't exist before. Joint clinical-academic faculty roles let practicing clinicians teach without leaving the bedside. And co-designed curricula—built with health system input on what today's roles actually require—shorten the gap between graduation and being practice-ready. Connecting education and job placement can also make healthcare careers more attractive, affordable and reliable, especially in rural and underserved areas where care is already fragile and the talent pool is the most acute.

Attracting more prospective clinicians to the talent pool could close up to 7% of the 2040 gap. This forecast of increasing the number of people entering the training pipeline is based upon academic studies of observed student responses to tuition subsidy programs such as those offered by employer partnerships.



4. Lisa Johnson et al., "Increasing Capacity with an Accelerated Post-Baccalaureate Associate Degree in Nursing," Teaching and Learning in Nursing 18, no. 1 (2023): 193–96.

5. 2026 Covista Care Capacity Monitor.

A wider talent pool only helps if the system can train it, and today it often can't. Nursing schools in the US turned away roughly 93,000 qualified applications in 2025.[6] Medical schools and allied health schools also face bottlenecks to expanding the supply of healthcare workforce. For many people living in rural and underserved areas, educators and clinical rotation sites can be an hour's drive away.[7] Solving for this could include expanding faculty and clinical placements, adding nursing, APP and residency seats, and accelerating pathways into practice. Support programs such as emergency financial assistance or AI learning support tools can help students stay on track toward graduation. All of these can help turn new entrants into practicing clinicians.

This also means investing in the workforce already here—upskilling current staff into higher-acuity roles and expanded scopes of practice. **Developing talent could close 25% of the 2040 gap.** The forecast is based on several factors including increased program capacity that allows the system to serve more of the qualified students who are rejected today and increasing completions and throughputs that accelerated pathways have been shown to drive.

25% of the gap could close by developing talent



ATTRACT ▶ **DEVELOP** ▶ RETAIN

6. American Association of Colleges of Nursing, "Schools of Nursing See Enrollment Increases Across Most Program Levels, Signaling Strong Interest in Nursing Careers," news release, May 7, 2026.

7. Michael Gollust and Rebecca Barry, "A Solution for Aspiring Rural Nurses: A New Way to Study (and Practice) in Your Hometown," Nurse.org, August 22, 2025.

Improving retention must go hand-in-hand with expanding the talent pipeline. Retaining existing clinicians could close another ~25% of the gap. That means reducing burnout, improving wellbeing and safety, strengthening incentives and creating pathways for licensed clinicians to re-enter practice and for early-career clinicians to stay through apprenticeships and externships. It also means preparing today's workforce to lead and collaborate on adopting new tools and care models, maximizing their impact and fulfillment, not just their output. According to the **2026 Covista Care Capacity Monitor**, 61% of surveyed clinicians want their organizations to prioritize lowering employee stress, 60% want scheduling solutions that appeal to staff and 59% want increased pay. At the same time, nearly a third of surveyed clinicians want more training in AI tools and technology.

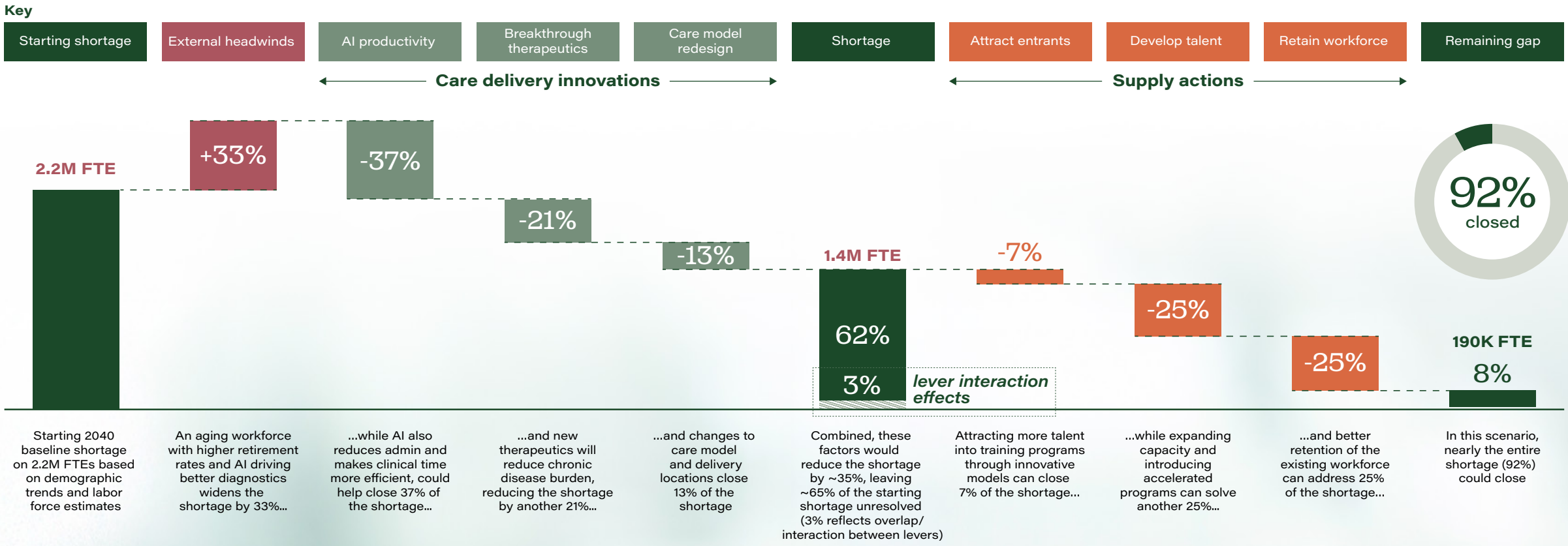
Because it takes years to attract new talent, train more people and hold onto clinicians already in practice, action must start today.



25% of the gap could close by retaining existing clinicians

ATTRACT ▶ DEVELOP ▶ **RETAIN**

Figure 6. The Index's 2040 healthcare workforce gap and projected amount closed by lever



Source: Analysis for the ***Covista Healthcare Workforce Index***.

Note: None of these levers reduce the number of workers the system needs—they close the gap between how many workers we'll need and how many we'll have. The care delivery innovations are slightly overlapping, so their impact together is slightly less than the total of each lever in aggregate.

Bold supply action scenarios and most likely care delivery innovation scenarios.

Stakeholder implications: from findings to collective action



So what does it mean for the stakeholders?

Innovating the care delivery model while growing and evolving the talent pipeline can potentially bring the solution within reach. Each stakeholder has a distinct role to play in closing the gap. The following pages lay out what health systems, policymakers and educators can each do, starting now.





The health system agenda: closing the gap is a growth and resilience imperative

Health systems can play a role in both care delivery innovation and supply actions. According to the Index, health systems should:

- **Take a portfolio approach.** Give the C-suite shared accountability for workforce investment, treat staffing gaps as enterprise risk on par with cyber or capital risk, and plan on the multi-year horizon clinician training actually requires.
- **Focus on preventive and primary care with limited clinical staff where they matter most.** Prioritize preventive medicine and primary care delivery by expanding access through clinical settings throughout the community. Shift care to the optimal setting—retail clinics, virtual, home-based—and shift administrative work off clinicians' plates, so time goes to what only clinicians can do.
- **Redesign jobs to retain great talent.** Use AI to eliminate busy work, not just automate it; fix burnout at the source with better scheduling and staffing ratios; and invest in mentorship and re-entry programs to plug the leaks.
- **Prioritize expanding the talent pipeline.** Partner with educators to attract new talent to healthcare careers and build talent pipelines that directly address organizational workforce needs.
- **Treat the workforce as a long-term investment.** Forecast gaps early, fund the pipeline directly—faculty, training slots, apprenticeships—and partner with educators and policymakers to build pathways years before the shortage creates further impact.
- **Build AI fluency into the clinical workforce.** Train clinicians to use AI tools—trusting them appropriately, questioning their outputs and knowing when to override them—so productivity gains translate into better care, not just faster tasks.



The policymaker agenda: closing the gap is an opportunity to fix access, quality and affordability

Policymakers can enable closing the gap through both supply actions and care delivery innovations. According to the Index, policymakers should:

- **Widen the door into the field and strengthen workforce stability.** Expand tuition assistance, loan support and paid training pathways-especially for working adults, career changers and high-need roles.[8] Modernize financial aid rules to support flexible, accelerated and competency-based programs. Promote clear, consistent visa and immigration policies that help qualified clinicians serve American communities and give health systems greater workforce stability.
- **Expand teaching capacity to grow the healthcare workforce.** Make teaching a more viable career path by reducing the pay gap for experienced clinicians and expanding loan forgiveness for master's and doctoral graduates who teach. Partner with state boards of nursing on simulation-based learning, innovative clinical placements, and faster program approvals.
- **Let clinicians work to the full extent of their training everywhere they're needed.** Modernize scope-of-practice rules, make it easier for clinicians to provide telehealth across state lines, and expand the workforce in rural and underserved communities through training sites, residency slots, service-based loan forgiveness and tax incentives for employers that partner with educators.
- **Invest in safer, more sustainable workplaces.** Fully fund Dr. Lorna Breen Act programs and other efforts to improve clinician mental health and reduce burnout and workplace violence—persistent workforce challenges associated with clinician burnout and intentions to leave.[9]
- **Modernize care delivery and prepare clinicians for new technology.** Incentivize primary care and preventive care that reduces the need for costlier, reactive care; remove outdated rules limiting hospital-at-home, outpatient surgery, and ER diversion. Embed AI literacy and safety training into clinical education and practice, support ongoing clinician upskilling, and protect licensure exam integrity.

8. Lisa Johnson et al., "Increasing Capacity with an Accelerated Post-Baccalaureate Associate Degree in Nursing," Teaching and Learning in Nursing 18, no. 1 (2023): 193–96.

9. U.S. Department of Health and Human Services, Office of the Surgeon General, Addressing Health Worker Burnout: The U.S. Surgeon General's Advisory on Building a Thriving Health Workforce (Washington, DC: HHS, 2022).



The educator agenda: closing the gap starts in the classroom

Educators can play an important role across supply actions and care delivery innovations. According to the Index, educators should:

- **Broaden who can enter the field.** Build flexible pathways for career changers, adult learners and students in rural and underserved communities—paired with tuition support and employer-funded models like tuition-for-service or earn-while-you-learn.
- **Create more faculty opportunities for clinicians.** Create joint clinical-academic roles, funded by employers, so practicing clinicians can teach without giving up practice or pay.
- **Align curriculum to where the jobs are.** Design programs against real market demand, focusing on primary care clinicians and with employers helping shape coursework by sitting on curriculum advisory boards, hosting case studies and guest lectures drawn from real clinical cases and co-developing competency standards for emerging roles.
- **Build AI fluency into training.** Integrate AI into clinical education, teach students to evaluate its outputs critically, and aim to produce graduates who help shape these tools—not just use them.

Conclusion: closing the gap starts now





Multiple levers, moving together can close



The healthcare workforce shortage took decades to build. It will not close through a single fix, in a single budget cycle or by any one stakeholder acting alone. But the Index projects that it can close. The modeling in the Index estimates that multiple levers, moving together—and only if all are pursued at once—can close 92% of the projected 2040 gap. According to the model, acting now with a portfolio approach could significantly reduce the projected shortage that doubles while delaying action could allow the gap to continue to grow.

The stakes of getting this right are not abstract. Every percentage point of the gap this Index identifies as closeable represents patients who get needed care sooner, clinicians who stay in the profession longer and communities that stop bearing the shortage's cost. What makes this moment different from prior efforts is the opportunity to act on a portfolio deliberately. Health systems, policymakers and educators can act together and should stay the course long enough for investments today to become the workforce of 2040.

Appendix

Methodology, sources and rationale

How to interpret this analysis: what this research is and is not

This research is

- A national, macro-level view of the U.S. healthcare workforce landscape.
- An access-driven view of the gap: Unlike pure utilization-based estimates, our analysis sizes the workforce needed if everyone could access the care they need.
- A synthesis of insights on healthcare workforce supply and demand dynamics.
- A directional view of the economic implications of those trends, to inform strategic dialogue.

This research is not

- An operational report to drive decisions on enrollment, health system budgeting or staffing plans.
- Employer-specific workforce planning or local market-level forecasting.
- Audit-grade financial or actuarial forecasting.
- A recommendation on policy or on strategy for specific regions or clinical specialties.

Bottom line

The Index is a directional compass for workforce economics—built to shape strategic perspective, not to replace operational planning or certified forecasting.

Overall baseline shortage: figures in the Index are based on an estimated workforce shortage of 2.2M FTEs

A range of published shortage estimates exist

HRSA projects by occupation:

~141K **physicians** and ~109K **RNs** by 2038, plus shortages across behavioral and allied health.

AAMC projects a shortage of up to

86K **physicians** by 2036.

Covista projects a gap of

8.4M **healthcare workers,** based on open healthcare jobs posting data.

Most estimates cover **single occupations** and assume **today's utilization patterns.**

BASIS FOR ALL FIGURES IN THE INDEX

Oliver Wyman estimates a 2.2M FTE shortage by 2040

2.2M = additional **FTEs needed beyond projected supply** to meet demand for care by 2040 (~20% of demand unmet).

Estimate spans the full workforce: Physicians, nursing, allied health, behavioral health and home health.

Estimate is based on unmet care needs: Access-adjusted demand, as if patients could access the care they need (not just the care used today).

This represents an **approximate doubling of the shortage** from today as demographic shifts, increasing prevalence of chronic disease, and other forces detailed on the next page **increase the demand for care faster than employment** in baseline forecasts for relevant healthcare roles.

Drivers of utilization growth for the 2026–2040 baseline workforce shortage

1

POPULATION GROWTH

More people create more demand for care

- Projected the population through 2040 by race × sex × age cohort.
- Applied cohort-specific baseline utilization rates to each year's projected population.

2

POPULATION AGING

A larger share of the pop is moving into higher-utilization age groups

- Captured the changing age mix within the same cohort-based population forecast.
- Because utilization is modeled by age cohort, demand increases as older cohorts make up a larger share of the population.

3

CHANGING DEMOGRAPHIC SHARES

Our analysis sizes demand as if everyone could access the care they need

- Every group's care use is raised to the utilization rates of a high-access cohort.
- Many fast-growing demo. groups use less care today; at high-access rates, their growth adds to utilization growth.

4

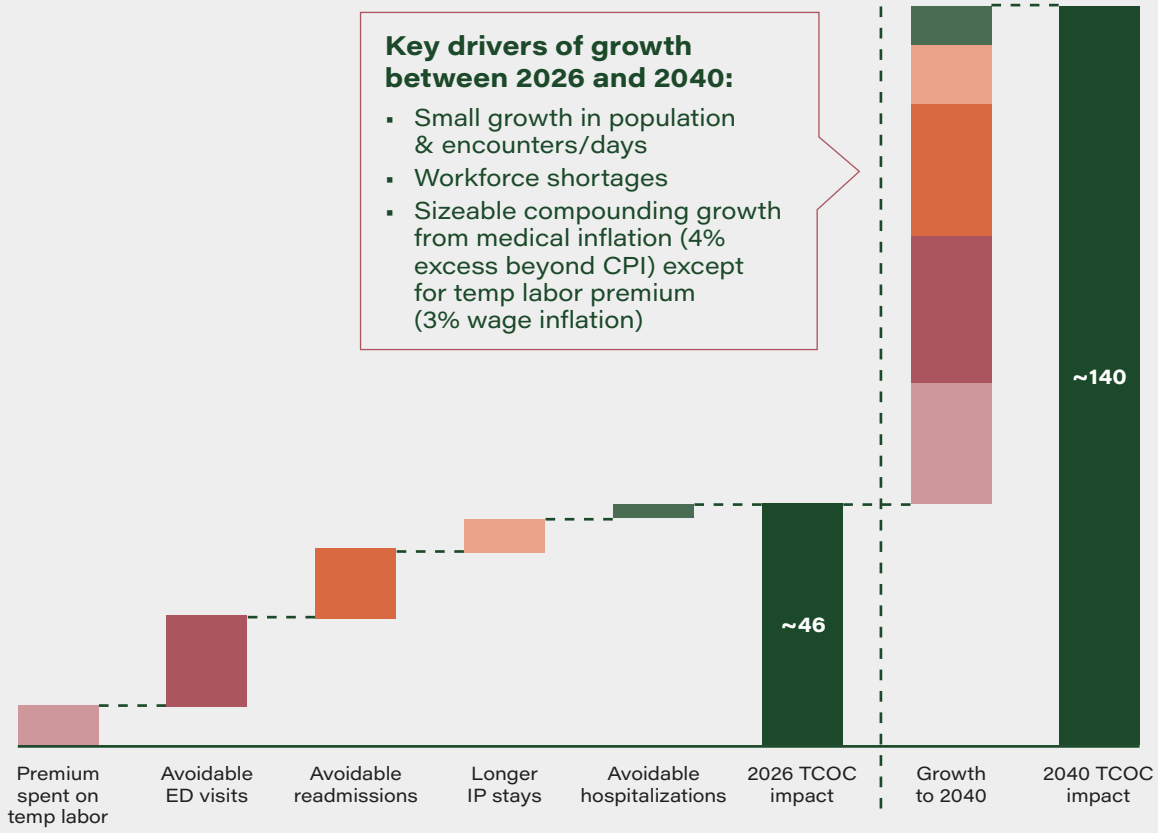
RISING DISEASE BURDEN

More illness per person means more care per person

- Applied an incremental utilization overlay beyond the effects of population growth and aging.
- Reflected higher expected use as disease affects more people and begins earlier in life.

Methodology notes for cost of workforce shortages

Impact of workforce shortages on total cost of care, 2026E & 2040 F ($B)



~Filling shortage-driven vacancies with contract and travel staff is an imperfect substitute for permanent FTEs, but can prevent service closures. Closing half the workforce shortage with contract staff can add **~$8B in excess labor cost this year, rising to ~$30B by 2040**

~25% of non-emergent ED visits are attributed to patients' inability to get timely ambulatory care, driving **~$17B in avoidable cost today, rising to ~$45B by 2040**

~9% of 30-day readmissions are preventable with timely post-discharge follow-up. Ambulatory workforce shortages that delay that follow-up are associated with **~$13B in avoidable cost today, rising to ~$38B by 2040**

When home-health capacity is short-staffed, medically-ready patients stay in the hospital longer than needed waiting for discharge placement, driving **~$6B in excess cost today, rising to ~$17B by 2040**

Every additional PC physician per 100K people is associated with ~16 fewer preventable hospitalizations a year. Applied to today's shortage, that is **~$3B in avoidable cost, rising to ~$11B by 2040**

7% of the annual growth is attributable to inflation (both CPI and medical inflation).

Translation of the cost to US families is based upon the average family size with growth projections, according to the U.S. Census.

Methodology notes for cost of workforce shortages

IMPACT AREA	WHAT'S MEASURED
Avoidable ED visits	▪ Measures **non-emergent visits that landed in the ED** because patients couldn't get a timely appointment in an ambulatory setting, and the additional cost of treating them in ED. ▪ Based on share of ED visits[1] that are clinically non-urgent and the share of those driven by access barriers *(~37% non-urgent[2], of which ~26% cite inability to get timely primary care[3]),* and the average cost difference of ED-versus-ambulatory visits.[4]
Avoidable hospitalizations	▪ Measures **hospitalizations** that adequate **primary care access** would have prevented, and the cost of those hospital stays.[5] ▪ Based on observed relationship between physician supply and preventable admissions[6] *(each additional PCP per 100,000 people is associated with ~16 fewer preventable hospitalizations a year[7]).*
Longer IP stays	▪ Sizes the cost of longer IP stays when patients who are **medically ready** to leave the hospital are **delayed** because there is **no post-acute** (home-health) **capacity** to receive them.[8] ▪ When home health is short-staffed, agencies turn referrals away and those patients stay in a hospital bed longer (~25% of referrals declined[9]; affected stays ~13% longer[9]), with the extra bed-days priced at the average daily hospital inpatient rate.[10]
Avoidable readmissions	▪ Measures cost of encounters from patients who **return to hospital** within 30 days purely because **of lack of post-discharge follow up** (separate from admissions that should never have occurred). ▪ Applies published preventable share of readmissions *(~9–10% avoidable through timely post-discharge follow-up[11])* to national discharge and readmission rates, at the average cost of a readmission.[12, 13]
Premium spent on temp labor	▪ Measures what it costs to plug 50% of the **hospital FTE shortage** (by role–e.g., MD, APP, Nurse etc) with contract and travel staff in hospital settings that cannot go unstaffed (IP, ED). ▪ Priced at market premium that contract staffing commands (contract labor at roughly 1.5× mean role salary[14, 15]).

1. NHAMCS, CDC/NCHS. 2022. **2.** Uscher-Pines L, Pines J, Kellermann A, Gillen E, Mehrotra A. Emergency Department Visits for Nonurgent Conditions: A Systematic Literature Review. American Journal of Managed Care. 2013. **3.** Weisz D, Gusmano MK, Wong G, Trombley J. Emergency Department Use: A Reflection of Poor Primary Care Access? American Journal of Managed Care. 2015. **4.** AHRQ HCUP Statistical Brief #311. 2021. **5.** AHRQ HCUP Statistical Brief #259. 2020. **6.** AHRQ PQI benchmark tables. 2025. **7.** Gunta SP, Ul-Ejaz A, Murphy AM, et al. Association of Number of Primary Care Physicians With Preventable Hospitalizations and Premature Deaths. Postgraduate Medicine. 2022. **8.** MedPAC. Report to the Congress. March 2024. **9.** Bipartisan Policy Center. Addressing the Direct Care Workforce Shortage. 2023. **10.** AHRQ HCUP National Inpatient Sample. 2022. **11.** Bilicki DJ, Reeves MJ. Outpatient Follow-Up Visits to Reduce 30-Day All-Cause Readmissions for Heart Failure, COPD, Myocardial Infarction, and Stroke: A Systematic Review and Meta-Analysis. Preventing Chronic Disease. 2024. **12.** CMS. Hospital Readmissions Reduction Program. 2024. **13.** AHRQ HCUP Statistical Brief #278. 2021. **14.** Beauvais B, Kruse CS, Ramamonjiarivelo Z, Pradhan R, Sen K, Fulton L. An Exploratory Analysis of the Association Between Hospital Labor Costs and the Quality of Care. Risk Management and Healthcare Policy. 2023. **15.** Lightcast, mean salaries by role. 2024.

Methodology notes for benefits of closing the workforce gap

IMPACT AREA	IMPACT AREA	WHAT'S MEASURED
Life expectancy gains from closing physician shortages	**Closing the primary care and specialist workforce gaps** and applying published life-expectancy gains to the added FTEs could deliver **6.5 additional months of life expectancy per person**, or 195 million additional life years by 2040.	▪ **Measures how much longer the average American could expect to live if the estimated primary care physician gap were filled** ▪ Built on the published link between physician supply and life expectancy: +10 PCPs per 100K people adds 51.5 days of life expectancy (~5 days per added PCP)[1], and +10 specialists per 100K adds 19.2 days.[1]
Lives saved by closing the nursing shortage	**Closing the nursing shortage** and applying published mortality improvements from lower nurse workloads could save over 9,000 lives annually, which is nearly 100,000 lives cumulatively by 2040.	▪ **Measures how many hospital deaths could be avoided if the IP nursing gap were filled, reducing each nurse's patient workload** ▪ Built on two linked evidence points: 1.) ~22,000 inpatient deaths are preventable annually[2], and 2.) each additional patient per nurse raises 30-day mortality and failure-to-rescue risk by ~7%.[3]
Lives saved through shorter specialist wait times	**Expanding specialist capacity** and applying published evidence on wait-time and treatment-delay reductions could cut new-patient wait times by **~20%** and save **7,000–9,700 lives annually**.	▪ **Measures how much faster patients could see a specialist if the gap were filled—and what starting treatment sooner means for survival in time-sensitive conditions** ▪ Built on two linked evidence points: 1.) a 10% increase in specialist time measurably cuts new-patient wait times (1.1-day reduction)[4], and 2.) every four weeks of treatment delay avoided lowers mortality risk by 6–8% in time-sensitive cancers.[5]

1. Basu S, Berkowitz SA, Phillips RL, Bitton A, Landon BE, Phillips RS. Association of Primary Care Physician Supply With Population Mortality in the United States, 2005-2015. JAMA Intern Med 2019.
2. Rodwin BA, Bilan VP, Merchant NB, et al. Rate of Preventable Mortality in Hospitalized Patients: a Systematic Review and Meta-analysis. J Gen Intern Med. 2020.
3. Aiken LH, Clarke SP, Sloane DM, Sochalski J, Silber JH. Hospital Nurse Staffing and Patient Mortality, Nurse Burnout, and Job Dissatisfaction. JAMA. 2002.
4. Yee CA, Palani S, Barr K, Pizer SD. Provider Supply and Access to Specialty Care. Health services research. 2026.
5. Hanna T P, King W D, Thibodeau S, Jalink M, Paulin G A, Harvey-Jones E et al. Mortality due to cancer treatment delay: systematic review and meta-analysis BMJ, 2020, and NIH National Cancer Institute cancer statistics, 2025.

Methodology notes for care innovation and AI

Productivity uplift assumptions are driven by the scope of tasks automated in each scenario.

AI Productivity Assumptions *(based on Oliver Wyman Report, "Unlocking the Great Health Productivity Reset", 2026).*

		Worst case *Expansion in current ambient and admin tasks*	**Likely** *AI integration across workflows*	**Best case** *End-to-end automation and physical care*
Productivity uplift *Per role*	**Physicians, APPs, BH clinicians**	+5%	+14%	+24%
	Nurses, Allied Health	+2.5%	+7%	+12%
Categories of admin/clinical tasks that are automated or accelerated		**Ambient tasks** ▪ E.g., Documentation, note generation, clinical coding **Narrow clinical decision support** ▪ E.g., Alerts, risk prediction	**Worst case, plus** **Diagnostics** ▪ E.g., Imaging/pathology triage, lab automation **Care coordination** ▪ E.g., Chart summarization, referral routing, inbox triage, discharge planning **Monitoring tasks** ▪ E.g., RPM, sepsis early-warning **Contained robotics** ▪ E.g., Surgical assistance, pharmacy dispensing, sterile processing	**Likely, plus** **Hands-on physical tasks** ▪ E.g., patient transfers, mobility assistance ▪ **Multi-step tasks end-to-end** (agents completing full admin and clinical workflows rather than assisting at individual steps)

The productivity uplift assumptions were applied to the headcount numbers and productivity rates of each clinician type. Assumptions are based on premise that AI will improve clinician productivity without replacing clinicians.

IMPACT AREA	KEY SOURCES
Life expectancy gains from closing physician shortages	1. U.S. Census Bureau, 2023 National Population Projections, 2023–2100. 2. CDC life expectancy tables, 2024. 3. JAMA Internal Medicine, "Association of Primary Care Physician Supply with Population Mortality," 2019.
Lives saved by closing the nursing shortage	4. Rodwin BA et al., "Rate of Preventable Mortality in Hospitalized Patients," J Gen Intern Med, 2020. 5. Aiken LH et al., "Hospital Nurse Staffing and Patient Mortality, Nurse Burnout, and Job Dissatisfaction," JAMA, 2002. 6. HCUP Statistical Brief #246, 2018.
Shorter specialist wait times	7. Yee CA, Palani S, Barr K, Pizer SD. "Provider Supply and Access to Specialty Care," Health Services Research, 2026. 8. Hanna TP et al., "Mortality due to cancer treatment delay: systematic review and meta-analysis," BMJ, 2020. 9. NIH / National Cancer Institute cancer statistics, 2025.
Avoidable ED visits	10. Uscher-Pines L et al., "Emergency Department Visits for Nonurgent Conditions: Systematic Literature Review," 2013. 11. AJMC, "Emergency Department Use: A Reflection of Poor Primary Care Access?", 2015. 12. AHRQ HCUP Statistical Brief #311, ED visit costs, 2021 | hcup-us.ahrq.gov/.../sb311.pdf. 13. NHAMCS, National Hospital Ambulatory Medical Care Survey, CDC/NCHS, 2022.
Avoidable hospitalizations	14. AHRQ Prevention Quality Indicators (PQI) benchmark tables, 2025 | qualityindicators.ahrq.gov/.../PQI-benchmarks.pdf. 15. Gunta SP, Ul-Ejaz A, Murphy AM, et al. "Association of number of primary care physicians with preventable hospitalizations and premature deaths." Postgrad Med, 2022. 16. AHRQ HCUP Statistical Brief #259, "Characteristics and Costs of Potentially Preventable Inpatient Stays, 2017", 2020 | hcup-us.ahrq.gov/.../sb259.pdf. 17. U.S. Census Bureau, 2023 National Population Projections, 2023–2100 | census.gov/.../2023-summary-tables.html.
Longer IP stays	18. Bipartisan Policy Center, "Addressing the Direct Care Workforce Shortage," 2023 | bipartisanpolicy.org/.../direct-care-workforce-shortage. 19. MedPAC, Report to Congress, March 2024. 20. AHRQ HCUP National Inpatient Sample, 2022 | hcup-us.ahrq.gov/.../NIS-2022.pdf.
Avoidable readmissions	21. Bilicki & Reeves, Preventing Chronic Disease (CDC), 2024. 22. AHRQ HCUP Statistical Brief #278, "Conditions With the Largest Number of Adult Hospital Readmissions by Payer, 2018", 2021 | hcup-us.ahrq.gov/.../sb278.jsp. 23. CMS, Hospital Readmissions Reduction Program, 2024.
Premium spent on temp labor	24. Lightcast, mean salaries by role, 2024. 25. Beauvais B et al., "An Exploratory Analysis of the Association Between Hospital Labor Costs and the Quality of Care," Risk Management and Healthcare Policy, 2023.

LEVER	KEY SOURCES
AI – Demand and supply implications	
AI-driven productivity gains	26. Oliver Wyman, "Unlocking the Great Health Productivity Reset: Quantifying the Productivity Potential of AI, Robotics, and Quantum for Clinical Care, Pharma, Medtech, and Payers," 2026 | oliverwyman.com/.../boosting-healthcare-productivity-with-ai-and-robotics.html.
AI-driven demand expansion *External headwind*	Novel; no other known source quantifies the demand AI creates, meaning lever is directional. Modeling both directions (i.e., AI absorbing work and AI finding patients) ensures net AI view is realistic.
Breakthrough therapeutics	
GLP-1 driven demand moderation	27. KFF Health Tracking Poll, 2025 | kff.org/.../prescription-drug-costs-and-glp-1-use. 28. Lincoff et al., "Semaglutide and Cardiovascular Outcomes in Obesity without Diabetes" (SELECT trial), NEJM 2023.
Additional breakthrough therapies	None (No literature exists for this case; labeled speculative by design).
Care model redesign	
Skill mix shift	29. Everett et al., "Physician Assistants and Nurse Practitioners as a Usual Source of Care," J Rural Health 2009. 30. Patel et al., "Provision of Evaluation and Management Visits by Nurse Practitioners and Physician Assistants," BMJ 2023.
Scope-of-practice liberalization	31. Pines et al., "The Impact of Advanced Practice Provider Staffing on Emergency Department Care," Acad Emerg Med 2020.
Delivery model redesign	32. Uscher-Pines et al., "Emergency Department Visits for Nonurgent Conditions: Systematic Literature Review," Am J Manag Care 2013. 33. CMS, Acute Hospital Care at Home program requirements, 2020.
External headwinds	
Retirement cliff	34. BLS, Spotlight on Statistics, "Healthcare Occupations in 2022" (Published 55+ workforce shares), 2022.
Fewer foreign-trained providers	35. "International Medical Graduates in the U.S. Physician Workforce," AAMC 2024. 36. BLS, Spotlight on Statistics, "Healthcare Occupations in 2022", 2022.
Supply slow-down	37. Oliver Wyman analysis of domestic undergraduate enrollment trends (~0.7%/yr decline, applied as annual erosion of new entrants).

LEVER	KEY SOURCES
Supply side actions: attract	
Improve value proposition	38. Dynarski, Libassi, Michelmore & Owen, "Closing the Gap," NBER Working Paper 25349, 2018.
Career switchers	39. AACN, "Accelerated Nursing Programs Fact Sheet," 2025 | aacnnursing.org/.../accelerated-nursing-programs. 40. AAMC, analysis of AAMC and AACOM matriculant data, 2025. 41. AAMC, Matriculating Student Questionnaire, 2018 | aamc.org/.../matriculating-student-questionnaire-msq.
Targeted addition of foreign-trained health workers	42. "International Medical Graduates in the U.S. Physician Workforce," AAMC, 2024. 43. BLS, Spotlight on Statistics, "Healthcare Occupations in 2022," 2022. 44. NRMP, "Main Residency Match Results and Data," 2025. 45. TruMerit (CGFNS International), international nurse credentialing volumes, 2024.
Supply side actions: develop	
Accelerated training pathways	46. AACN, "Accelerated Nursing Programs Fact Sheet," 2025 | aacnnursing.org/.../accelerated-nursing-programs.
Capacity expansion	47. NCSBN, NCLEX-RN Examination Statistics, 2024. 48. NRMP, "Main Residency Match Results and Data," 2025. 49. AAMC / AACOM matriculation and graduation statistics, 2025. 50. NCCPA, Statistical Profile of Board Certified PAs, 2024. 51. AAMC / BLS, Occupational Outlook Handbook (training pathway lengths), 2024. 52. AANP / PAEA graduation statistics, 2021–2022 | aanp.org/.../PrimaryCare.pdf | paeaonline.org/.../Program-Report-36.pdf. 53. CAPTE, "Aggregate Program Data: PT Programs Fact Sheet," 2024 | capteonline.org/.../2024-pt-aggregate-program-data.pdf. 54. AOTA, "Academic Programs Annual Data Report," 2022–23. 55. CoARC, "Report on Accreditation in Respiratory Care Education," 2024 | coarc.com/.../2024_Report_Accreditation.pdf.
Supply side actions: retain	
Enhance retention	56. Lightcast, employment projections, 2023–2036. 57. "Nurses' labor supply elasticities: The importance of accounting for extensive margins," Journal of Health Economics, 2014. 58. Becker Friedman Institute, travel-nurse wage response during COVID-19, 2020.
Apprenticeship / externship	59. The Journal of Continuing Education in Nursing, nurse externship retention outcomes, 2025.
Re-entry of licensed staff	60. HRSA, National Sample Survey of Registered Nurses, 2022. 61. National survey of inactive physicians, 2011. 62. FSBPT, Re-Entry to Practice resource; Washington State Department of Health, 2016 | fsbpt.org/.../ReentryOfPhysicalTherapyProviders201605.pdf | doh.wa.gov/.../physical-therapist-faq.

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