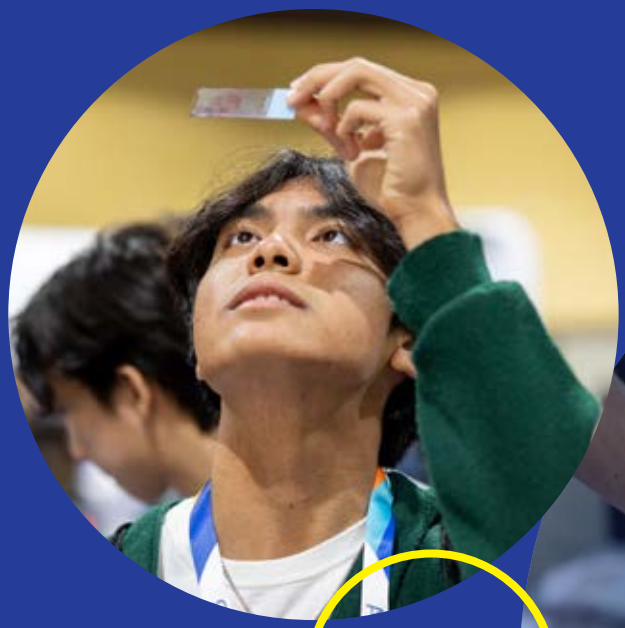
American Society for Clinical Pathology

whatsmynext.org

Behind Every Diagnosis Is a Medical Laboratory Professional

And in Every Laboratory are Rewarding Careers for Your Students.

District Implementation Guide: Building CTE Pathways in Laboratory Medicine



Introduction

This guide is for district leaders, CTE directors, and educators who recognize that healthcare offers many rewarding careers beyond the doctors and nurses students may first think of. Among the most essential, and often overlooked, are careers in the medical laboratory, where professionals generate the test results that physicians rely on every day. In fact, 98% of physicians agree laboratory results help justify their clinical course of action, and 100% say laboratory data helps streamline how they use other healthcare resources.[1]

Inside, you'll find practical strategies, funding tools, and success stories showing how districts across the country are transforming science classrooms, hospital partnerships, and local workforce initiatives into pipelines for the next generation of medical laboratory professionals.

We need as many students as possible to be immersed in the [medical] laboratory environment to see if this is where they belong. The more laboratory experience they have, the stronger their conviction that they have it right and the more drive to be successful.

Jim Payne, Medical Laboratory Assisting and Phlebotomy Instructor, BOCES2 CTE Center, New York

A career in the clinical lab has unbelievable job security, and it's a stepping stone to almost any role in healthcare. There's a role in the lab for any skill set and whatever level of education you're planning to pursue from a GED to a PhD.

Elizabeth Margolskee, Associate Chair for Workforce Resiliency in Pathology

I've had students who thought they were going to go to med school, but now that they found out about the [medical] laboratory, their interest is piqued. I feel like we can save kids in that way; save them the additional time, the money, the back and forth. Showing them that this pathway exists is very helpful.

Holly Covas, Medical Laboratory Science Program Director, Vanderbilt University Medical Center, Tennessee

Why Laboratory Medicine Pathways Matter

The Workforce Crisis: A National Shortage

Every day, millions of medical tests quietly guide the most important decisions in healthcare. From diagnosing infections to monitoring chronic disease, laboratory professionals turn data into diagnosis. *Yet their work often goes unseen.*

That invisibility has become a national crisis. Laboratory medicine is known as the "hidden profession of healthcare," and the lack of visibility is fueling a severe workforce shortage.

According to the Bureau of Labor Statistics, the U.S. must recruit 24,200 new medical laboratory scientists and technicians every year just to meet demand. In 2022, however, only 7,400 graduates entered the field, less than one-third of what's needed to keep hospitals running and communities healthy.[2]

When laboratories go understaffed, test results slow, diagnoses are delayed, and patient care suffers. The shortage ripples outward, impacting everything from emergency response times to community health outcomes.

We can change that story by focusing efforts on exposure to these critical and rewarding careers in high school.

Inspiring the Next Generation of Medical Laboratory Professionals

Early exposure is effective.

When students can see and touch real medical laboratory science, they get inspired, and stay engaged.

At Mayo Clinic, the Lab Explorers program has shown just how powerful early access can be. Over the past two years, they've seen extremely positive results:[3]

- **96%** of students felt they were confident they could name at least five health careers.
- **93%** of students said they were interested in working in the healthcare industry and said the program motivated them to do well in their classes.
- **93%** of students said after the program experience that they could see themselves working at Mayo Clinic.

Programs like Lab Explorers prove that when students meet professionals, use authentic equipment, and understand how medical laboratory work saves lives, they see healthcare in a whole new way. They begin to picture themselves in the role. "We need to get into the classrooms as much as possible," said Holly Covas, Medical Laboratory Science Program Director at Vanderbilt University Medical Center in Tennessee. "Teaching high schools that our pathways do exist; it starts there because even counselors and teachers sometimes don't know that these pathways exist."

"We are trying to help students see how cool lab careers are."

Liana Michelfelder, Mayo Clinic Workforce Development

This is where Career and Technical Education (CTE) becomes transformative. CTE health science pathways give high school students early, hands-on experiences that connect classroom learning to real-world careers. When laboratory science becomes part of that experience, it turns curiosity into purpose, and purpose into skilled professionals.

"If we can get it so that every student in America knows about the careers in a medical laboratory the way they know about the different disciplines of a doctor or a nurse, we're going to be in much better shape… If every lab in the country was talking to every student around them, if they are giving students a chance to really see what it's like to be in a lab and fall in love with that, and actively trying to make advocates, we'd be most of the way to solving the lab shortage."

Jim Payne, Medical Laboratory Assisting and Phlebotomy Instructor at the BOCES2 CTE Center, Spencerport, New York

AI-Proof and Human-Powered

In a world increasingly shaped by automation, laboratory medicine stands apart.

"AI can aid diagnostics, but it cannot replace the compassion and precision that patient care requires." [4]

Rob Porter, "AI-Proof Jobs for 2025"

Laboratory professionals combine human judgment, ethics, and critical thinking with technology to deliver accurate results that clinicians trust. These are future-proof careers, where innovation enhances, rather than replaces, human expertise. For students, that means security, meaning, and upward mobility in one of the fastest-growing sectors of healthcare.

Community Impact That Reaches Beyond the Laboratory

"98% of physicians agree lab results help them justify their clinical course of action. 100% of physicians agree lab results help streamline how they use other healthcare resources." [5]

Siemens Healthineers Survey, 2025

Every community depends on timely, accurate laboratory results. From managing infectious outbreaks to supporting emergency care, laboratory professionals are central to public health and safety.

Districts that build laboratory science pathways aren't just preparing students for jobs—they're strengthening local healthcare systems, reducing workforce gaps, and keeping vital services close to home. A strong medical laboratory workforce means faster diagnoses, healthier patients, and more resilient communities.

CTE: Where Professional Pathways Begin

"CTE participation improves high school achievement, college readiness, and postsecondary employment."

American Institutes for Research [6]

CTE is the bridge between medical laboratory curiosity and career.

Districts that integrate laboratory medicine pathways see measurable results, yet these programs don't just prepare students for life after high school, they are also key drivers in strengthening schools and communities.

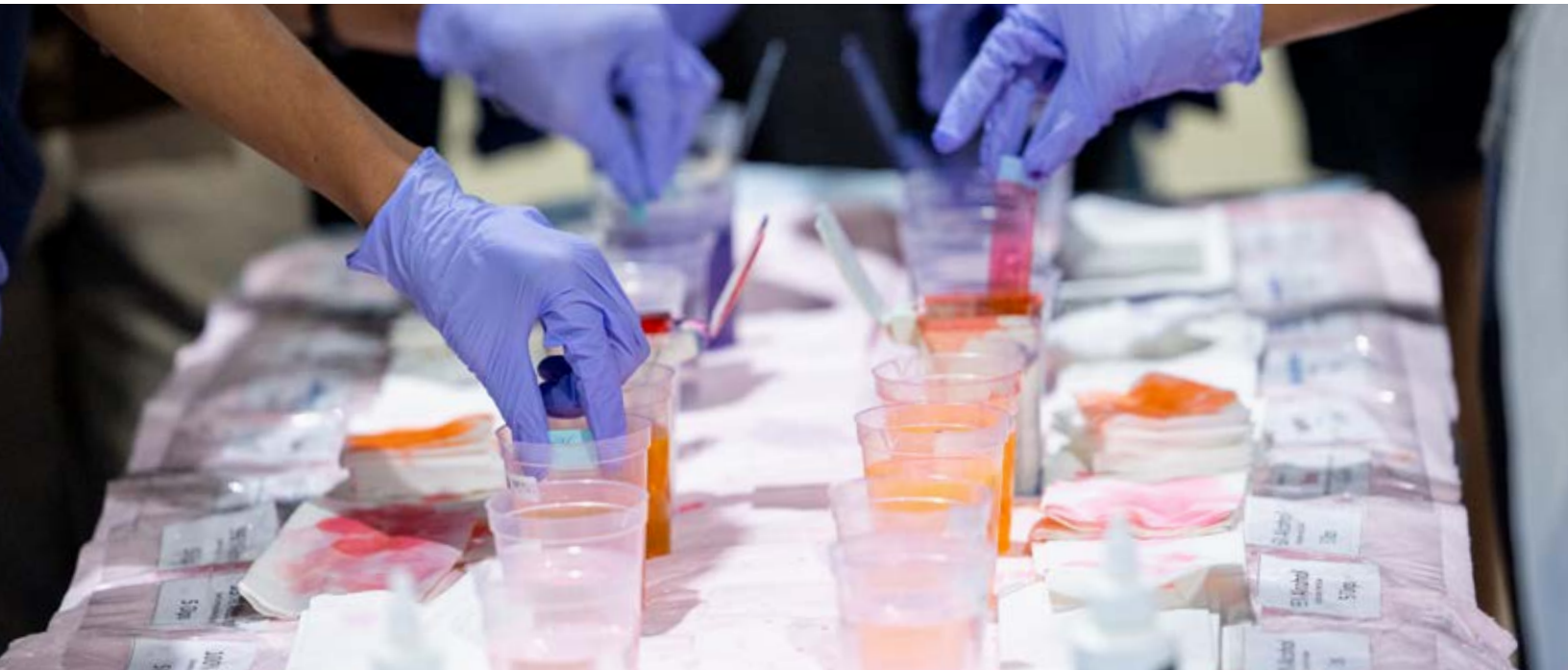
CTE High School Programs Build

- Engaged students
- Real-world relevance
- College & career readiness
- Local workforce alignment

District leaders can use this guide to:

- Build sustainable CTE pathways in laboratory medicine.
- Strengthen local healthcare pipelines.
- Open life-changing opportunities for students.

Let's dive in!



Understanding the Laboratory Medicine Career Pathway

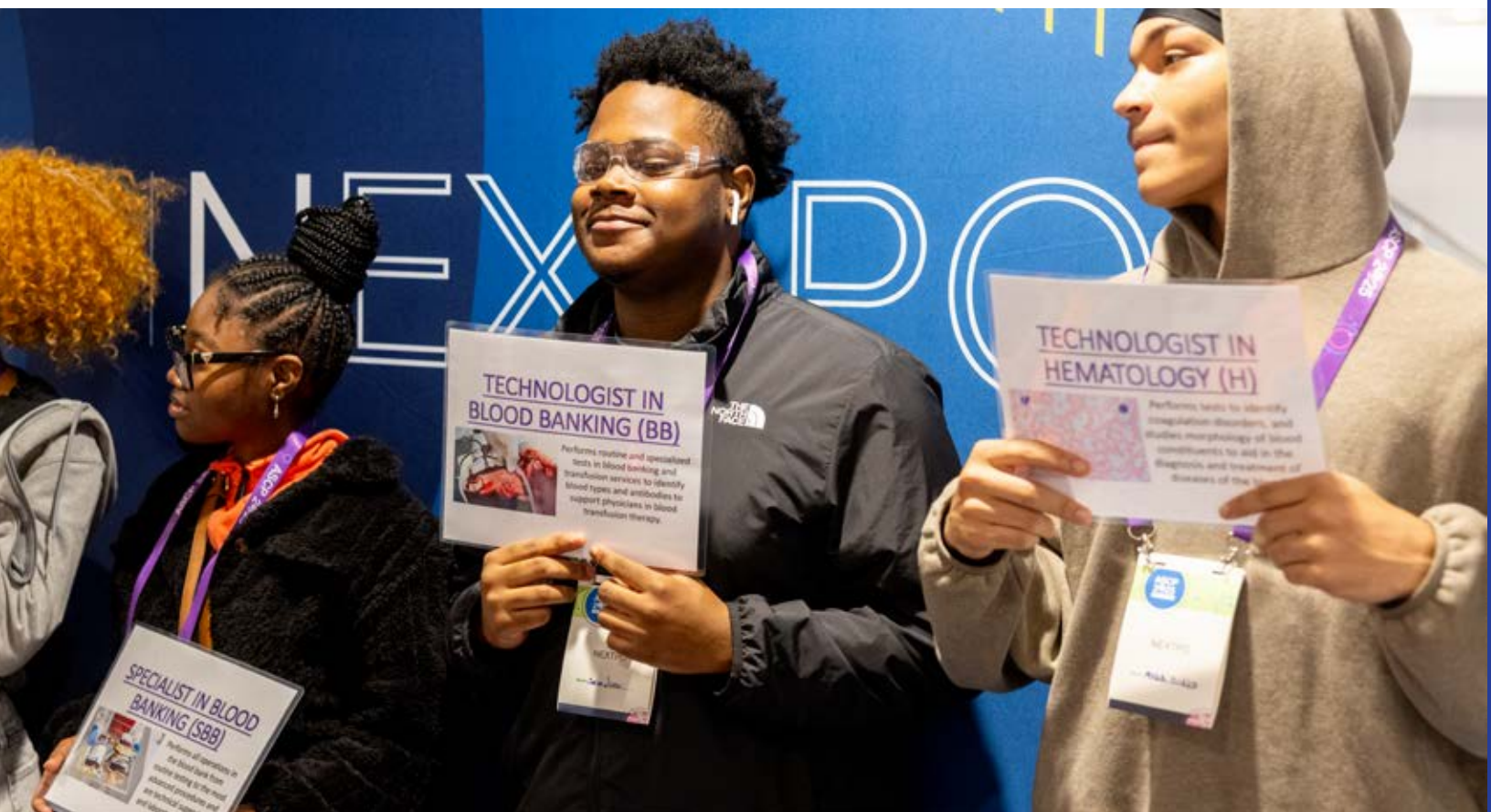
Overview of Key Careers

Laboratory medicine represents one of the most diverse and essential sectors of healthcare; a field where science, technology, and patient care intersect every day. For districts, it's a powerful addition to an existing **Health Science CTE Cluster**, giving students access to additional real-world, high-demand careers that sustain hospitals, clinics, and public health systems.

According to ASCP's What's My Next?,[7] there are 11 core laboratory medicine careers ranging from phlebotomist and medical laboratory assistant to medical laboratory scientist, pathologists' assistant, and ultimately pathologist or laboratory director. Each role represents a distinct combination of education level, specialization, and responsibility, offering multiple points of entry for students and clear opportunities for advancement.

These pathways create stackable credentials that fit naturally within the CTE framework:

- Entry-level certifications (**Phlebotomy Technician, Medical Laboratory Assistant**) can be integrated into high school programs to provide immediate employability.
- Associate and bachelor's degree programs (**Medical Laboratory Technician, Medical Laboratory Scientist**) continue that progression, supported by ASCP national certifications that signal professional readiness.
- Advanced and specialized roles such as cytology, histotechnology, molecular biology, or pathology extend into graduate or medical school study, demonstrating the long-term career growth available to motivated students.



Why These Careers Belong in a CTE Framework

1

High Demand and Workforce Relevance

Laboratory roles are among the fastest-growing occupations in healthcare, driven by the rising volume of diagnostic testing, public health data needs, and biotechnology innovation. Including laboratory medicine in CTE pathways ensures districts are preparing students for real jobs with local and national demand.

2

STEM in Action

Laboratory professionals apply biology, chemistry, math, and technology daily, making these careers the perfect alignment with academic STEM standards. A medical laboratory CTE pathway will turn science from theory into practice, allowing students to see how what they learn in class directly impacts patient care and community health.

3

Accessible Entry Points for All Learners

CTE medical laboratory programs give students early access to industry-recognized credentials and hands-on skills that open doors to healthcare employment immediately after graduation. Many students use these credentials as a launchpad into college health science programs.

4

Local Economic and Health Impact

Medical laboratory professionals are essential to every hospital, public health department, and clinic. By growing talent locally, districts help stabilize their regional healthcare workforce, keep jobs in their communities, and strengthen local economies.

5

Career Longevity and Advancement

From specimen collection to diagnostic leadership, laboratory medicine offers clear, upward mobility. Students can enter the workforce quickly, then build advanced expertise through continuing education and ASCP BOC certification pathways, a model that mirrors CTE's mission of lifelong learning.

CTE Classroom Connection: Bringing Laboratory Careers to Life

Districts don't need to build new programs from scratch to expose students to laboratory medicine; they can integrate laboratory science concepts and credentials directly into **existing Health Science or Biomedical pathways.**

How to get started:

- ☐ **Introduce Career Awareness Early**

  Use ASCP's "Where Can Medical Laboratory Science Take You?" visuals in freshman and sophomore CTE or science classes to spark interest and career exploration.

- ☐ **Embed Skill-Based Learning**

  Incorporate laboratory modules such as specimen handling, safety procedures, or diagnostic testing into existing courses to align with ASCP competencies.

  FREE SKILL-BUILDING RESOURCE FOR CLASSROOMS AND EDUCATORS

  Through a cooperative agreement with the CDC, ASCP offers a free eLearning series designed to build foundational medical laboratory skills. Each course provides 1.0 CMLE credit and covers core topics such as laboratory safety, terminology, math, equipment operations, routine procedures, and quality control—ideal for embedding into CTE and health science coursework.

  LEARN MORE HERE!

- ☐ **Offer Stackable Credentials**

  Partner with local colleges or healthcare providers to offer high school students certification preparation for Phlebotomy Technician (PBT) or Medical Laboratory Assistant (MLA).

- ☐ **Leverage Work-Based Learning**

  Arrange guest speakers, field trips, or virtual laboratory tours with local hospitals or public health laboratories to make classroom content tangible.

- ☐ **Highlight Transferable Skills**

  Emphasize teamwork, data accuracy, safety, and critical thinking, skills that apply across all healthcare fields.

Integrating these experiences transforms abstract science into purposeful, career-connected learning. For students, it's a chance to discover healthcare roles that are hands-on, in-demand, and deeply meaningful.

BIG IMPACT STARTS WITH SMALL STEPS: Making Laboratory Careers Real for Students

Holly Covas didn't begin her career as a program director with a doctorate—she started as a medical laboratory technician in Mississippi. Her path took her from the bench to Vanderbilt University Medical Center where she led the Medical Laboratory Science program and helped launch new initiatives in phlebotomy, clinical laboratory assisting, and histotechnology.

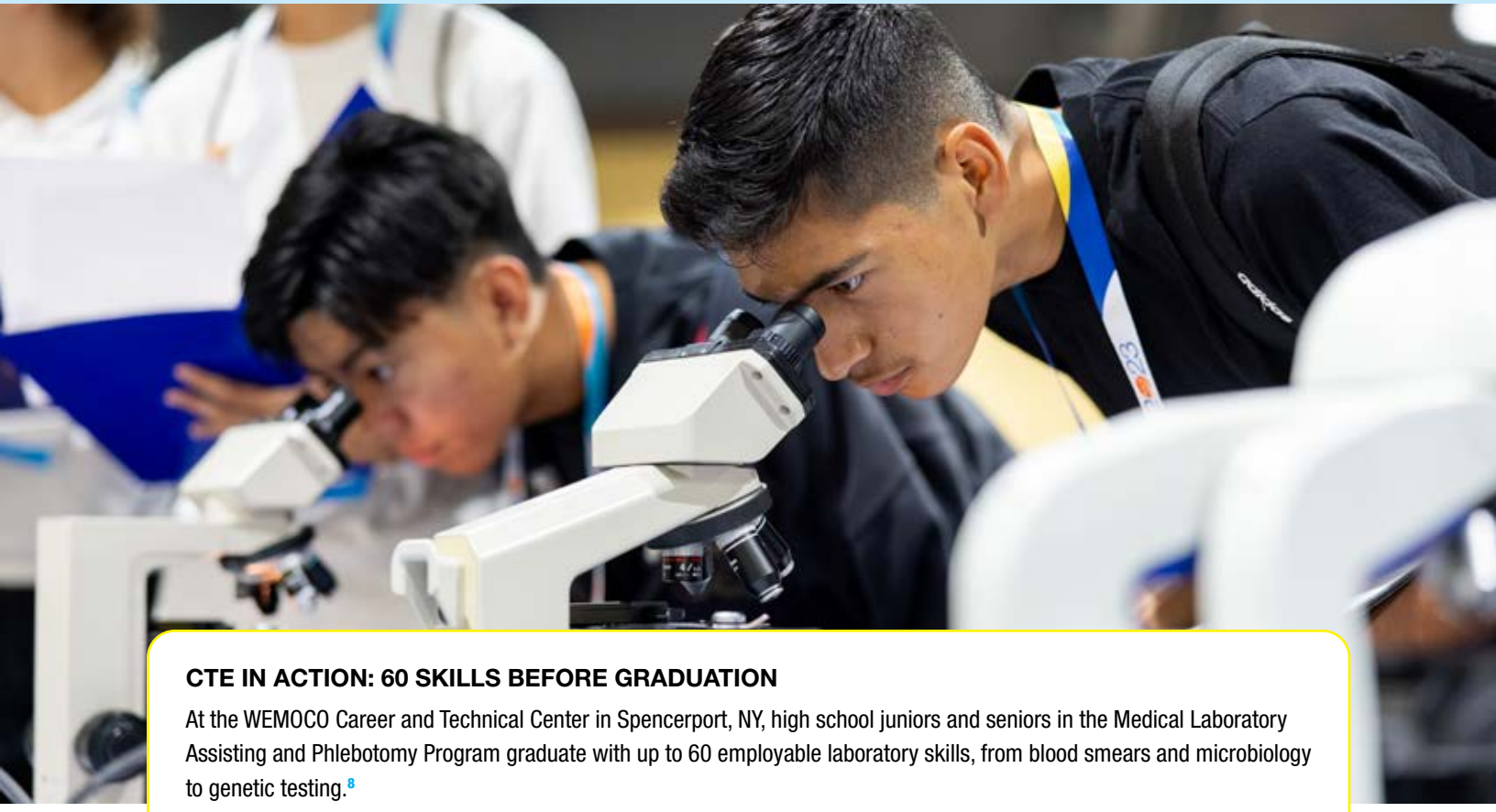
But Holly's biggest impact may be in how she makes laboratory careers visible to high school students. Through school panels, biology class visits, and hands-on STEM demos—even as simple as dropping a tablet into diluted apple juice to mimic a diagnostic reaction—she shows that exposure doesn't have to be expensive or elaborate.

"Start small," Covas says. "You don't need expensive instruments to get students interested. Even manual techniques or creative demos can show them what's possible."

She champions what she calls a "grow your own" approach: helping students discover medical lab careers early—especially those who may not pursue a four-year degree right away.

"Students often think doctors and nurses are the only medical careers," she explains. "But lab work offers hands-on, high-impact roles that are just as essential, and often a better fit."

That mindset pays off. One of Holly's current educational coordinators discovered the laboratory through her high school outreach, proof that early exposure can change a student's entire career path.



CTE IN ACTION: 60 SKILLS BEFORE GRADUATION

At the WEMOCO Career and Technical Center in Spencerport, NY, high school juniors and seniors in the Medical Laboratory Assisting and Phlebotomy Program graduate with up to 60 employable laboratory skills, from blood smears and microbiology to genetic testing.[8]

"They learn not only medical laboratory skills, but skills transferable to biotechnology, chemical labs, food labs, environmental labs, research, forensics, and so on," said instructor Jim Payne.

Students leave with two laboratory medicine certifications (Phlebotomy and Medical Laboratory Assisting), ready for employment, or college-level study, proof that CTE pathways can deliver both rigor and relevance in laboratory medicine.

Strategies for Building Sustainable CTE Programs

Laboratory medicine pathways thrive when they're built on strong partnerships, skilled educators, and authentic experiences that mirror the healthcare environment. For districts, sustainability means more than just launching a new course; **it means creating a program that can grow, adapt, and serve students and local employers for years to come.**

> *"If you're a district-level person, you want to figure out your curriculum by understanding what's required for certification ... Backwards design is common in education—know the assessment, and work backwards."*
>
> Jim Payne, Medical Laboratory Assisting and Phlebotomy Instructor, BOCES2 CTE Center, New York

Align CTE Frameworks with Local Healthcare Demand

Every region's healthcare ecosystem looks different, but every community depends on medical laboratory professionals. To make programs sustainable, districts should begin by mapping local demand for diagnostic and laboratory careers.

Start by asking:

- What positions are local hospitals, diagnostic laboratories, and public health departments struggling to fill?
- Which local colleges or universities offer Medical Laboratory Technician (MLT) or Medical Laboratory Science (MLS) degrees?
- How can a high school pathway build a bridge to those postsecondary programs?

Aligning curriculum with real hiring needs ensures students graduate with relevant, employable skills. This local demand analysis also helps districts make a strong case for state and federal funding later in program development.

Know Your State's Status

While some states, like New York, have formal CTE standards for Medical Laboratory Assisting and Phlebotomy, many others do not. In some cases, laboratory science is embedded within broader health science or biotechnology pathways, making it harder to identify as a distinct option.

Before designing a program, districts should assess whether their state has defined standards or frameworks for high school-level laboratory training. If none exist, Jim Payne, who helped pioneer New York's model, emphasizes the importance of advocacy. He recommends that educators bring together local laboratory leaders and begin conversations with state education officials to push for formal pathway recognition. This collaborative approach is often the first step toward establishing a sustainable, standards-aligned CTE program in laboratory medicine.

Build Advisory Boards

A thriving program depends on a committed advisory board that connects education with industry practice.Bring together local representatives from:

- Hospitals, public health laboratories, and diagnostic companies
- Community colleges and universities
- Local workforce boards and economic development agencies
- ASCP Career Ambassadors or regional laboratory professionals

Advisory boards serve as both program champions and quality anchors, ensuring that curriculum, facilities, and assessments reflect current industry standards. They can also open doors to internships, co-ops, guest speakers, and job placements.

LEGAL READINESS

Advisory boards should also help shape and approve legal agreements for student internships. Liability coverage (student vs. hospital), supervision protocols, and minor consent must be clearly defined. Initial agreements may take months, but having a framework accelerates future partnerships.

Quick Win: Start small. Host an introductory "Medical Laboratory Science in Our Community" roundtable with local healthcare employers and college partners to identify immediate needs and shared goals.

Recruit and Train Qualified Instructors

One of the biggest challenges in launching health science programs is finding certified instructors who possess a comprehensive understanding of both teaching and medical laboratory practice. Districts can address this by:

- Recruiting from local hospitals, public health laboratories, or community colleges for adjunct or part-time teaching roles.
- Supporting industry-to-education transitions through train-the-trainer initiatives.
- Offering professional development aligned with ASCP educational standards and safety protocols.
- Partnering with state CTE offices to ensure instructors meet credentialing requirements while maintaining their clinical expertise.

BRIDGE FROM INDUSTRY TO TEACHING

States like New York offer a Transitional-A (Trans-A) certificate for industry professionals with 5+ years of experience to become CTE instructors through the NYDOE. While some states may require MLT or MLS credentials, others may allow more flexible entry. Review your state's criteria and create recruitment strategies to bring medical laboratory expertise into the classroom.

Quick Win: Invite medical laboratory professionals to co-teach short modules or guest lectures. This bridges the gap between classroom and clinical practice while inspiring students with real-world stories.

Embed Real-World Learning

Hands-on experience is the cornerstone of CTE,
and it's especially critical in laboratory medicine.
The best programs weave real-world exposure throughout the pathway:

Simulation Laboratories

Create safe, classroom-based spaces for students to practice specimen collection, pipetting, and safety procedures.

Job Shadowing & Field Trips

Partner with local medical laboratories to allow students to observe diagnostic processes, instrument operation, and quality control systems.

Internships or Co-ops

Offer structured work experiences that lead to credential eligibility or early employment.

Dual Credit or Dual Enrollment

Connect upper-level courses to local community college programs for credit toward an associate degree or ASCP certification.

Certification Considerations

ASCP certification is the gold standard for medical laboratory professionals. The ASCP Board of Certification offers multiple eligibility routes based on education, program completion, clinical experience, advanced credentials, and related pathways. Alternative certifications (such as those offered by the American Medical Technologists [AMT] or other recognized organizations) may serve as interim options. Programs should work with partners to align training and experience with long-term ASCP eligibility.

Student Exploration Success

Programs should support exploration as much as preparation. Jim Payne, Medical Laboratory Assisting and Phlebotomy Instructor at BOCES2 CTE Center, shared this powerful example: "I had a student who thought he wanted a career in microbiology, until he realized he didn't enjoy working with the messier side of lab work. He switched to auto tech before college and now works at a major dealership. That's a success story and could have been a really expensive mistake." Real-world learning confirms both passions and preferences, often saving students years of schooling and career redirection.

These experiences help students see the direct connection between technical skills, patient outcomes, and career possibilities.

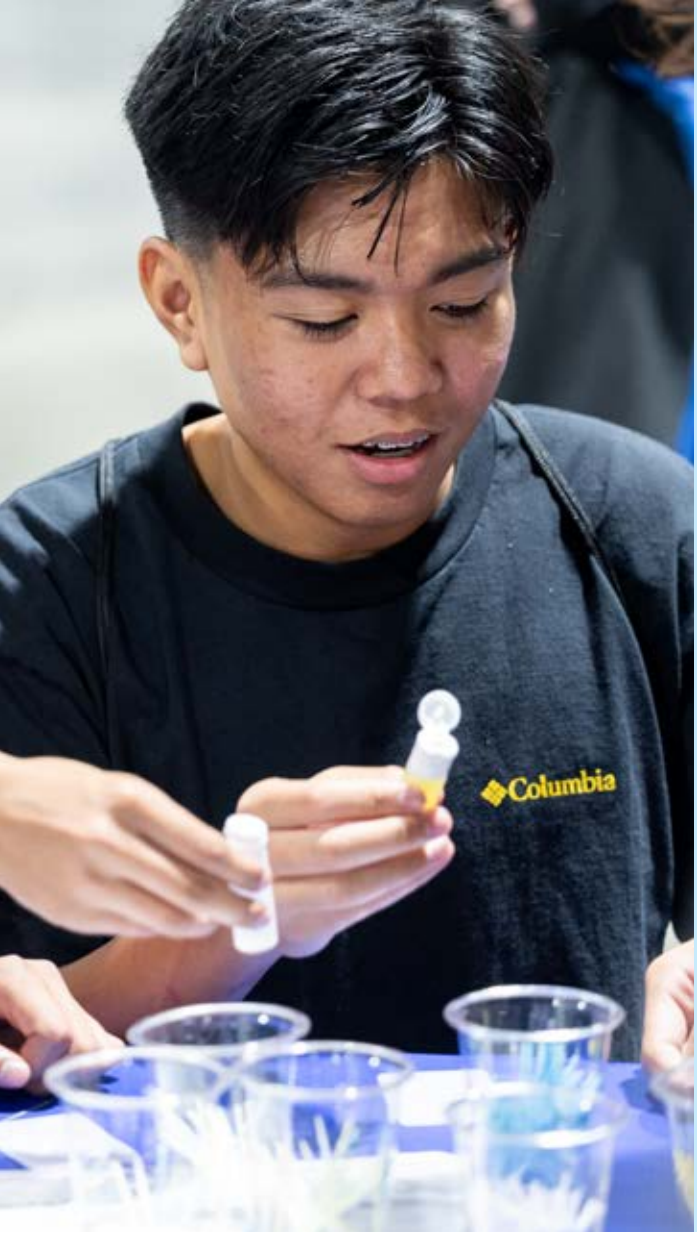
Quick Win: Launch a one-day "Step into the Laboratory" event — inviting local medical laboratory professionals to host hands-on activity stations. Students can learn how to stain slides, use a microtome, or identify blood cells under a microscope.

ASCP CAREER AMBASSADORS

INSPIRE STUDENTS WITH A MEDICAL LABORATORY CAREER AMBASSADOR VISIT

Invite a certified laboratory professional to your school or classroom to lead hands-on activities and share real-world stories from one of healthcare's most essential fields. ASCP Career Ambassadors bring the medical laboratory to life—for free.

LEARN MORE HERE!



SPOTLIGHT

Voices from the Field —
Jim Payne's Program in New York

Jim Payne's award-winning Medical Laboratory and Phlebotomy program at BOCES2 CTE Center shows what's possible with persistence, partnership, and planning. Launched in 2011, he built the program from nothing and, over eight years, moved from a basic classroom to a state-of-the-art laboratory training center, attracting the attention of the world by 2021. The program is now completely full year over year, serving 18 students per class. His students graduate with up to 60 laboratory skills and industry certifications, and many are employed before college. His keys to success include: start early; build relationships and frameworks with hospitals, state politicians, and community organizations; teach at a collegiate level; and continually educate the community.

His "Techs in Training" model invites local politicians and counselors to suit up and learn alongside students, creating powerful advocates and community buy-in for the program.

"It took eight years before I convinced high-level people in the organization to change their minds. Once that opened up, the floodgates opened... now my program is always at full capacity."

Sustain Through Continuous Collaboration

The most successful programs treat sustainability as an ongoing process, not a one-time launch. Districts should:

- Review curriculum annually with advisory boards.
- Track student credential attainment, job placement, and college transition data.
- Celebrate student and employer success stories publicly to build momentum.

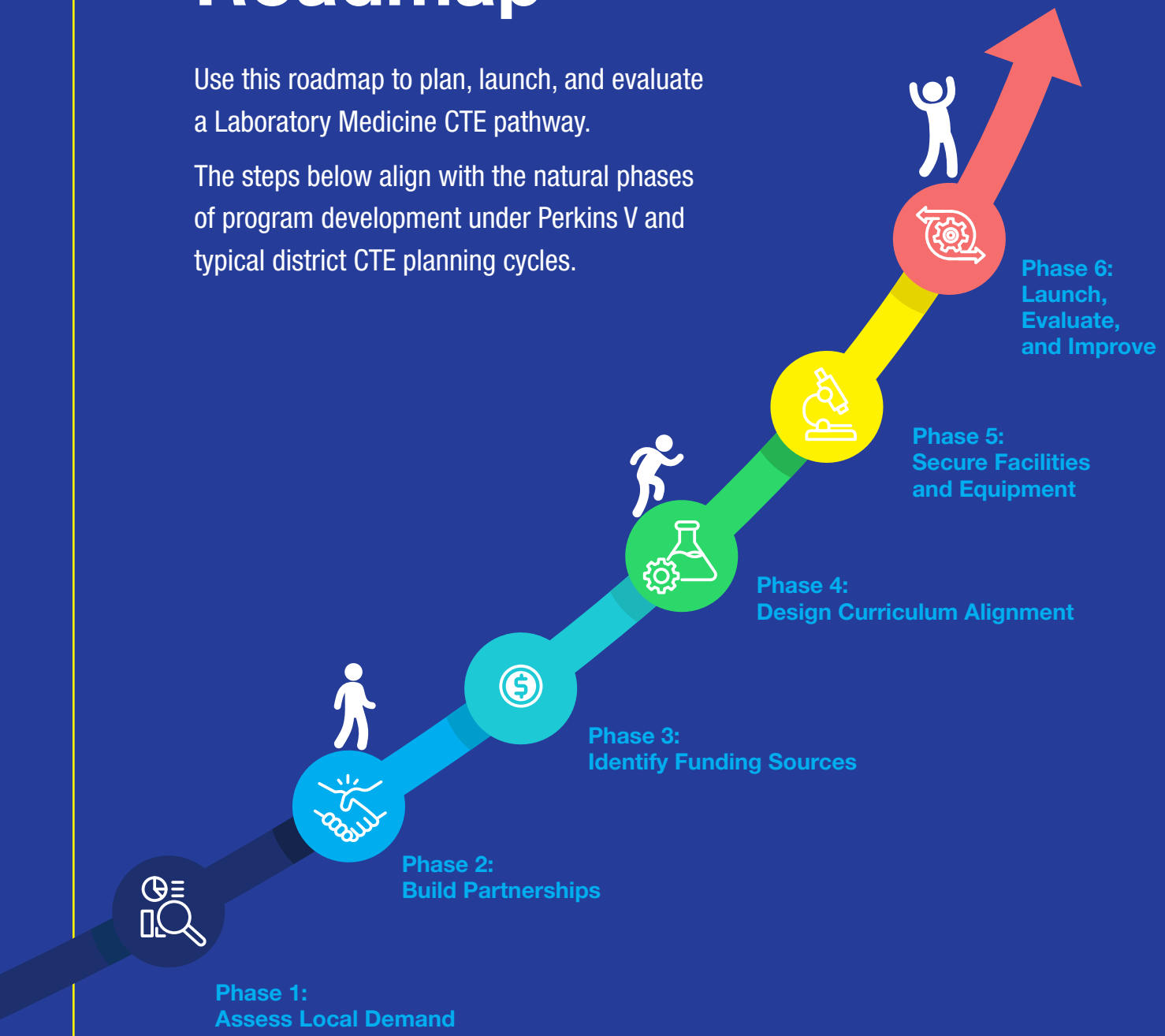
When schools, employers, and community colleges stay in sync, laboratory medicine pathways evolve alongside industry needs and remain valuable for students and local healthcare systems alike.

With these strategies established, districts are ready to move from planning to action. The next section provides a clear, step-by-step roadmap for implementing laboratory medicine pathways—from assessing local demand to equipping classrooms and launching the first student cohort. Each phase is designed to help your district build a program that is not only successful at launch, but sustainable for years to come.

Implementation Roadmap

Use this roadmap to plan, launch, and evaluate a Laboratory Medicine CTE pathway.

The steps below align with the natural phases of program development under Perkins V and typical district CTE planning cycles.



Phase 1: Assess Local Demand

Objective

Understand workforce needs and verify the demand for laboratory medicine careers in your region.

Key Actions

- Gather data from regional labor market reports, hospitals, and public health departments.
- Identify shortages in Medical Laboratory Technicians (MLT), Phlebotomists, and related roles.[9]
- Map current CTE and Health Science offerings to identify gaps.
- Document employer interest and potential work-based learning opportunities.

Deliverable

Local needs assessment and justification for pathway approval.

Suggested Partners

Workforce development boards, regional hospitals, local economic development agencies.

Phase 2: Build Partnerships

Objective

Form strong relationships with local higher education, healthcare, and industry to co-design the pathway.

Key Actions

- Create a Laboratory Medicine Advisory Board with hospitals, clinical laboratories, and postsecondary partners.
- Establish dual-enrollment agreements with community colleges or universities offering MLT/MLS programs.
- Secure clinical placement agreements for internships, co-ops, and phlebotomy training.
- Identify employer mentors willing to support classroom presentations or job-shadowing.

Deliverable

Partnership memorandum of understanding and advisory board roster.

Suggested Partners

ASCP Career Ambassadors, hospital systems, community colleges, regional workforce councils.

Phase 3: Identify Funding Sources

Objective

Leverage local, state, and federal funding to build or expand your program.

Key Actions

- Use Perkins V funds for curriculum alignment, equipment, and professional development.
- Explore state innovation or career-pathway grants.
- Engage industry partners to sponsor laboratory equipment, supplies, or student certifications.
- Document cost-sharing strategies and sustainability plans.

Deliverable

Funding plan and budget proposal.

Suggested Partners

District CTE finance officers, grant coordinators, local foundations.

Phase 4: Design Curriculum Alignment

Objective

Align learning outcomes with ASCP competencies and local college programs.

Key Actions

- Map existing Health Science CTE courses to medical laboratory career/course standards.
- Embed phlebotomy or medical laboratory assistant credentials into upper-level courses.
- Integrate dual credit or articulated college courses wherever possible.
- Incorporate career awareness modules in grades 9–10 and credential-focused laboratories in grades 11–12.

Deliverable

Complete course sequence and articulation map.

Suggested Partners

CTE curriculum coordinators, community college faculty, ASCP education consultants.

Phase 5: Secure Facilities and Equipment

Objective

Ensure instructional spaces and materials reflect industry standards.

Key Actions

- Evaluate existing health science laboratories for required upgrades (microscopes, centrifuges, biosafety materials).
- Develop or retrofit a clinical simulation laboratory to align with medical laboratory safety protocols.
- Partner with hospitals or colleges to share space and resources.
- Procure laboratory safety gear and digital learning tools for molecular and histology instruction.

Deliverable

Equipped laboratory and approved safety plan.

Suggested Partners

District facilities management, local hospitals, equipment vendors, safety officers.

Jim Payne began his high school medical laboratory program with limited equipment, but over time, he secured grants, built community support, and received donations that allowed the program to steadily expand.

"We started with five microscopes… Now we have research-grade microscopes, slide scanning systems, and even a 4K camera."

Phase 6: Launch, Evaluate, and Improve

Objective

Implement the program, collect results, and establish continuous improvement cycles.

Key Actions

- Enroll first-year cohort and track demographics, certifications, and outcomes.
- Collect student and employer feedback on work-based learning experiences.
- Use data dashboards to monitor credential attainment and employment metrics.
- Share success stories with school boards, parents, and local media to build momentum.
- Review curriculum annually with the advisory board to stay aligned with workforce needs.

Deliverable

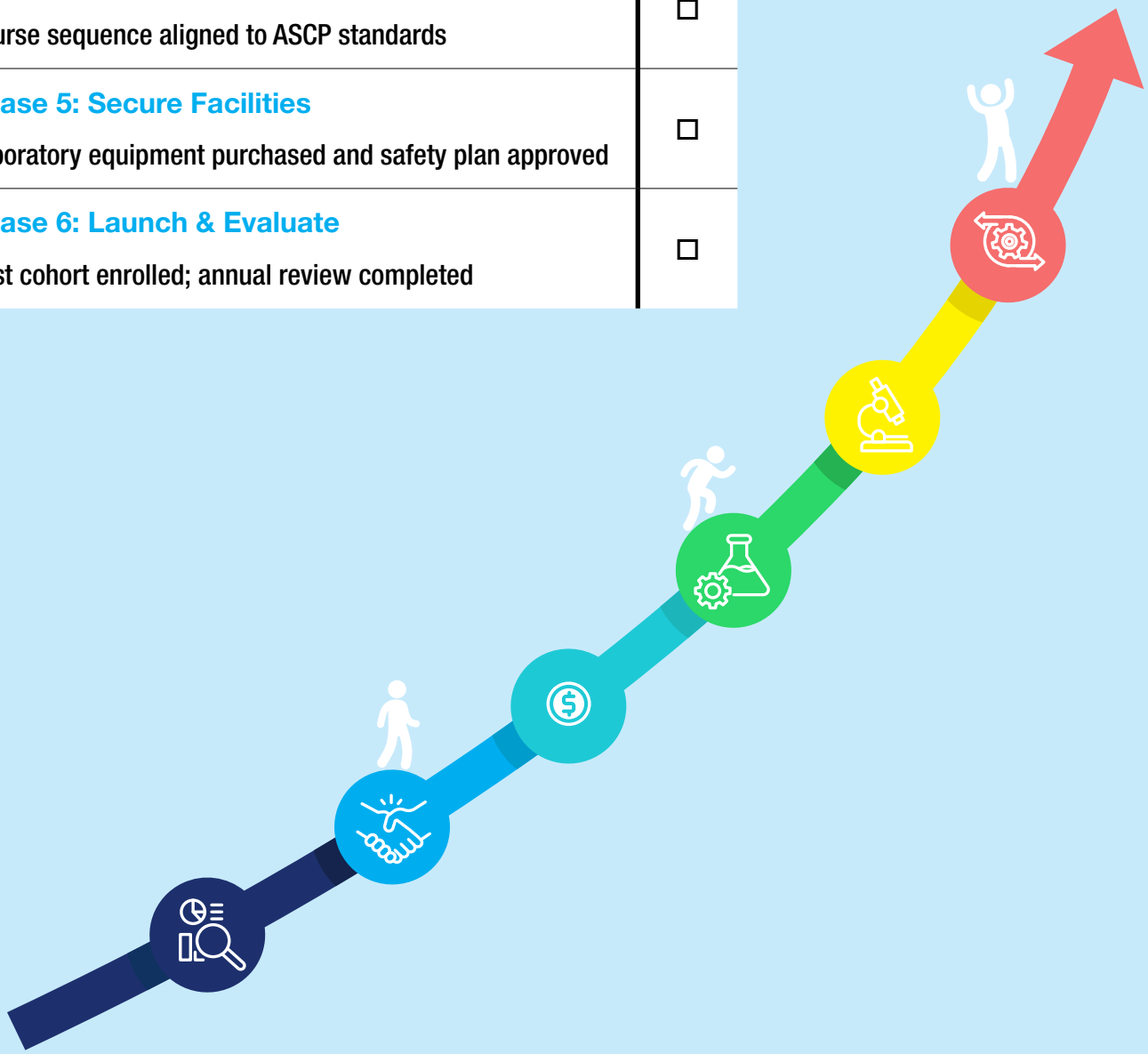
Annual implementation report and continuous improvement plan.

Suggested Partners

District evaluation teams, employer mentors, ASCP workforce analysts.

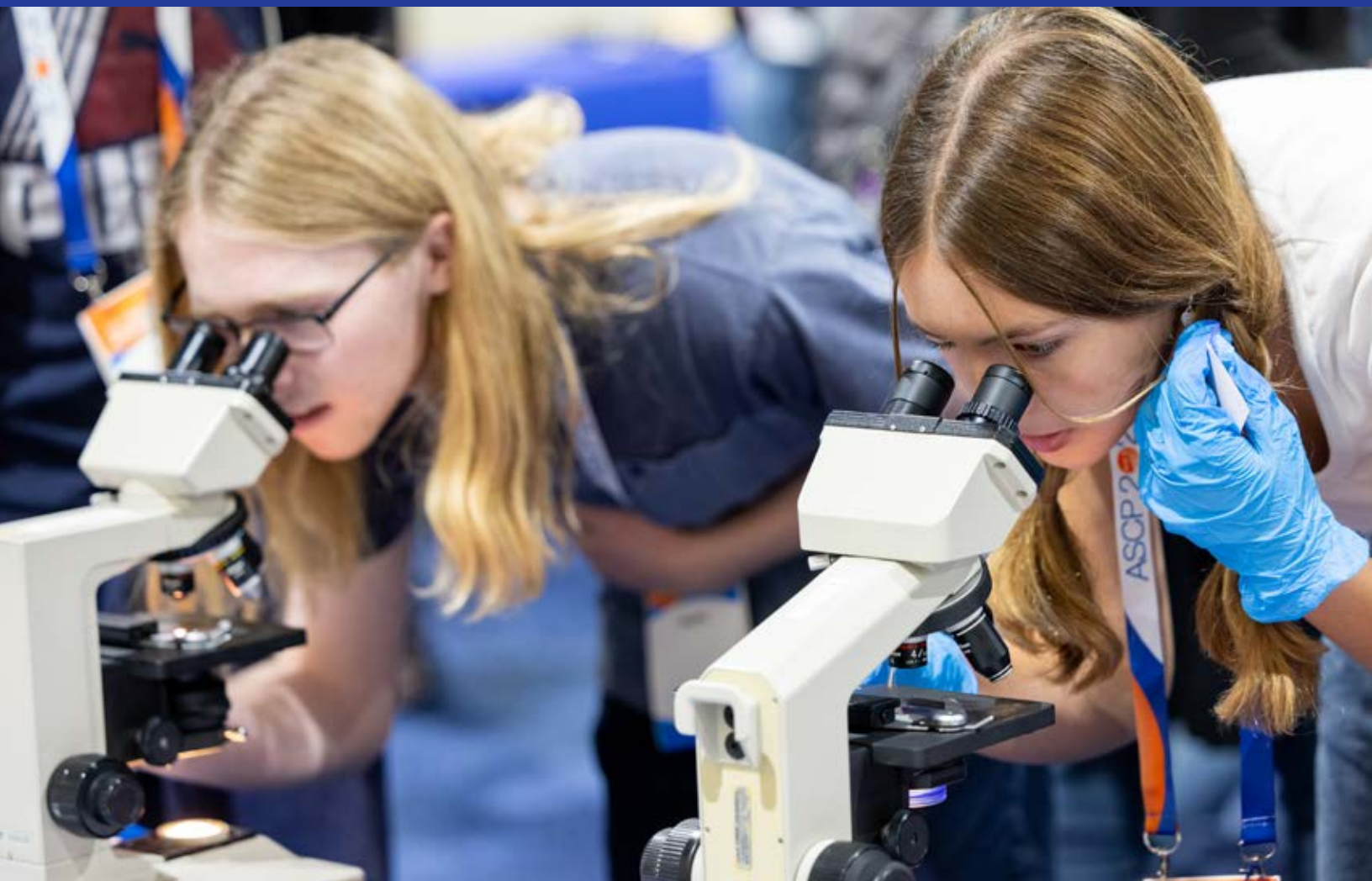
QUICK REFERENCE:
One-Page District Implementation Checklist

Phase 1: Assess Local Demand Workforce and program gap analysis completed	☐
Phase 2: Build Partnerships Advisory board formed and MOUs signed	☐
Phase 3: Identify Funding Perkins V and local grant applications submitted	☐
Phase 4: Design Curriculum Course sequence aligned to ASCP standards	☐
Phase 5: Secure Facilities Laboratory equipment purchased and safety plan approved	☐
Phase 6: Launch & Evaluate First cohort enrolled; annual review completed	☐



Funding & Partnership Models

Launching a laboratory medicine pathway is an investment in students, schools, workforce readiness, and community health. Sustainable programs draw strength from two sources: diverse funding streams and authentic partnerships that link education to industry. Districts don't have to go it alone. In fact, the most successful programs are those built through shared responsibility.



Leverage Existing Funding Streams

Perkins V: Career & Technical Education Strength

Perkins V remains the backbone of most CTE program development. Districts can use it to:

- Update laboratory facilities, simulation laboratories, and safety equipment.
- Support educator professional development aligned with ASCP standards.
- Expand dual-enrollment opportunities and credentialing access for students.
- Build partnerships with hospitals and public health laboratories under "work-based learning" objectives.

State & Regional Initiatives

Many states offer CTE Innovation or Career Pathways grants designed to spark collaboration between districts and industry. Health-science and STEM-specific funding can often be repurposed for laboratory medicine programs when outcomes align with public health or workforce development goals.

Local & Philanthropic Opportunities

- Engage hospital foundations and biotech employers to sponsor laboratory equipment or student certification fees.
- Approach workforce boards or economic-development councils for local grant support.
- Explore scholarship funds through ASCP or regional health foundations to remove financial barriers for students entering the field.

SUCCESS STORY

Rural Tennessee Program Builds STEM Pipelines

In rural Tennessee, the High School to Health Care initiative is opening doors to laboratory and data science careers.[10] Led by Dr. Jacen Moore and the University of Tennessee Health Science Center, the program gives high school students dual-enrollment opportunities and hands-on experiences in microbiology, cytology, and data science.

"We're creating pipelines for students to pursue these careers as they progress through high school and college," said Dr. Moore.

Backed by a $1.3 million NIH Science Education Partnership Award, the program unites universities, schools, and communities to bring high-tech healthcare learning to underserved regions.

District Insight: How to Replicate This Model

Districts can follow the High School to Health Care example by partnering with nearby colleges or universities to co-develop dual-enrollment medical laboratory science courses and apply jointly for STEM or health-science grants. Federal programs such as NIH SEPA, NSF, or Perkins V often fund initiatives that expand healthcare career pathways, especially in rural or high-need regions.

Begin by identifying higher education partners already engaged in laboratory or health-science outreach and align around shared goals in student recruitment, equipment sharing, and faculty collaboration.

Key takeaway: Innovative funding thrives when schools, colleges, and employers invest together in growing the local healthcare workforce.

Build Partnerships that Power Sustainability

Sustaining a laboratory medicine program requires more than equipment and curriculum, it requires shared commitment across education, healthcare, and the community.

“Laboratory programs are expensive to operate,” says Covas. “If you have an administration that doesn’t translate the value of the program past the dollar amount, it’s very limiting.”

According to Covas, sustainability depends on building a coalition of support, from hospital partners and local employers to school administrators and community advocates. And that support starts with helping others understand the real-world impact of these programs.

“If I’m running these tests, I can only do so many per day. But if we’re training 16 people a year to do that work, that translates into thousands more patients who can get diagnosed faster,” she explained. “That’s the story administrators need to hear, how lab training programs affect access to care in their own communities.”

With an aging population, rising chronic disease, and increased demand for testing, Covas stresses that now more than ever, leaders must connect the dots between student training and community health outcomes.

“It’s about showing why it matters that we have people who can do these tests and making sure our students are fully prepared to step into those roles.”

Here are some examples of key partnerships that can power a program’s sustainability:

Healthcare & Industry Partners

Hospitals, diagnostic laboratories, and biotech companies provide more than funding, they deliver authenticity. They can host site visits, mentor students, and co-develop training aligned with hiring needs. *For employers, these collaborations create early pipelines of skilled local talent.*

Higher Education Partners

Community colleges and universities ensure program alignment and smooth credit transfer. Together with districts, they can design dual-credit courses, coordinate credential testing, and share faculty or laboratory space.

Community & Alumni Networks

Local advisory boards and alumni are powerful advocates. Alumni employed in hospital and other medical laboratories can serve as guest speakers or mentors, while community leaders can help communicate the program’s value to parents and policymakers.

Making Partnerships Work

Start with Shared Goals	Formalize Agreements	Communicate Regularly	Celebrate Success
Identify the common workforce needs each partner can help meet.	Use MOUs that define roles, liability, supervision, and data-sharing expectations.	Quarterly meetings between district and employer partners keep programs aligned.	Public recognition strengthens commitment and attracts new collaborators.

SPOTLIGHT

Teen Health and Success Partnership (Rochester, NY)

In Rochester, collaboration between schools and healthcare systems is transforming how students see their future.[11]

The Teen Health and Success Partnership (THSP) connects high schoolers from the City of Rochester with paid employment across the University of Rochester (UR), including Strong Memorial and Highland Hospitals.

More than a job placement program, THSP surrounds students with wraparound supports through the Hillside Work-Scholarship Connection and FutureReady, ensuring they have advocates who help them navigate challenges at home, school, and work. Students gain financial independence, confidence, and a front-row seat to healthcare careers they might never have imagined.

The results speak for themselves:

- 100% of 2024 seniors graduated high school, and 65% enrolled in college.
- 76 students were employed across 36 UR departments.
- Nearly half remain employed at UR after graduation, with 176 students and graduates earning promotions since the program began.

This model shows how districts and healthcare institutions can work hand-in-hand to build a local talent pipeline that benefits students, families, and employers alike—a true example of workforce development meeting community impact.

ALIGN AROUND A SHARED VISION

Effective school–hospital partnerships aren't just about logistics, they're about shared purpose.

"Alignment is key," said Dr. Elizabeth Margolskee, Associate Chair for Workforce Resiliency in Pathology. "On the hospital side, offering education and exposure takes a lot of work. We're already stretched thin. So if you can find people who share your vision, you're halfway there."

That shared vision sparked CHOP's decision to create its own phlebotomy training program. Historically, CHOP had relied on temporary workers, many with only a few hours of training. It wasn't ideal, especially for pediatric care. So the phlebotomy manager partnered with a local workforce group, The Skills Initiative, to launch a new pipeline program focused on West Philadelphia residents who had been historically excluded from healthcare jobs.

"We've run the program three times now," says Margolskee. "The good news is, we've learned that on-the-job training can be incredibly effective. Our staff trained through this model have lower rates of inadequate draws, which means fewer needle sticks for kids."

The results are clear: training your own staff, whether through CTE or adult education programs, creates a workforce that's better prepared, more invested, and built specifically for the roles your community needs.

"If you're a CTE director," Margolskee added, "it's worth finding a hospital that matches your vision. That alignment makes all the difference."

Measuring Success

The long-term success of a laboratory medicine pathway depends on evidence—showing that students are learning, employers are satisfied, and communities are benefiting. Measuring progress not only supports continuous improvement; it also secures ongoing funding and public trust.

Sustaining a laboratory medicine pathway requires more than a strong start, it depends on clear evidence that the program is delivering results. Tracking outcomes such as student learning, credential attainment, and employer satisfaction supports continuous improvement, builds public trust, and secures future funding.

As Payne puts it, long-term success means staying engaged and visible:

"You've got to think of it like a business; you're constantly building and maintaining your brand. We went from almost being shut down to becoming a flagship program."

Key Metrics to Track

Category	Indicators	Why It Matters
Student Engagement	Enrollment growth, retention rates, diversity	Demonstrates program value, effectiveness, and equity
Academic Achievement	Credential attainment, dual-credit completions, certification pass rates	Verifies quality and rigor
Post-Secondary Transitions	College enrollment in MLT/MLS programs	Confirms alignment with higher-ed pathways
Employment Outcomes	Job placements, local employer satisfaction, starting wages	Shows workforce return on investment
Program Sustainability	Advisory board participation, partnerships renewed, grants secured	Measures long-term viability

Using Data for Continuous Improvement

Analyze Annually

Review enrollment, credential, and job-placement data each year with your advisory board.

Adjust Curriculum

Use feedback from college and industry partners to update courses and laboratory experiences.

Share Results

Present dashboards or infographics to school boards, community partners, and local media.

Highlight Impact

Success stories build credibility for future funding and help recruit new students.

ASCP & Partner Resources

Districts have access to national and regional support networks designed to simplify implementation and strengthen outcomes:

ASCP "What's My Next?"	Career maps, credential guides, and free classroom resources.
ASCP Ambassador Program	Connects educators with laboratory professionals for guest teaching and mentorship.
Career Technical Education Research Network (AIR)	Evidence-based practices for CTE design and evaluation.
Advance CTE	Resources for CTE leadership to advance high-quality CTE policies, programs, and pathways that ensure career and college success for each learner.
Perkins V	Tools for data reporting, compliance, and grant alignment.

By tapping into these resources, you can turn ambition into action, building medical laboratory pathways that are high quality, equity driven, and deeply aligned with community needs. The work begins with awareness, but it's sustained through collaboration, innovation, and a shared commitment to student success and public health.

Endnotes

1 Siemens Healthineers Survey: How System Friction and Patient Agency Affect Physicians—And What This Means for Lab Testing

2 Building Tomorrow's Lab Workforce

3 How high school students are learning about labs

4 AI Proof Jobs for 2025: Careers Technology Won't Replace

5 Siemens Healthineers Survey: How System Friction and Patient Agency Affect Physicians—And What This Means for Lab Testing

6 New Report Finds Positive Effects of Career and Technical Education on High School Student Achievement, College Readiness, and Postsecondary Employment

7 ASCP What's My Next

8 High School Students in Upstate New York Learn 60 Critical Medical Laboratory Skills

9 ASCP Workforce Initiatives

10 High School to Health Care, Forging Pathways into Lab and Data Sciences

11 Teen Health and Success Partnership

American Society for
Clinical Pathology