

iCEV | 2024

Bridging the 10 Million Health Worker Gap:

The Impact of CTE Educators





In this report, you will discover trends in US job growth, projected shortfalls of workers, and reasons why healthcare is booming. You will hear directly from CTE educators about the impact of certifications, healthcare courses, and igniting student career curiosity.

This research has been conducted by Catapult X, an independent research agency specializing in science, STEM and CTE education, on behalf of iCEV, a comprehensive platform for career & technical education (CTE).

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The State of Healthcare



Healthcare as an industry is booming, and training skilled workers to meet the increased global demand starts in local high schools where career & technical education (CTE) teachers inspire, motivate, and prepare students for success in the jobs of the future.

Dusty Moore
President / CEO
iCEV



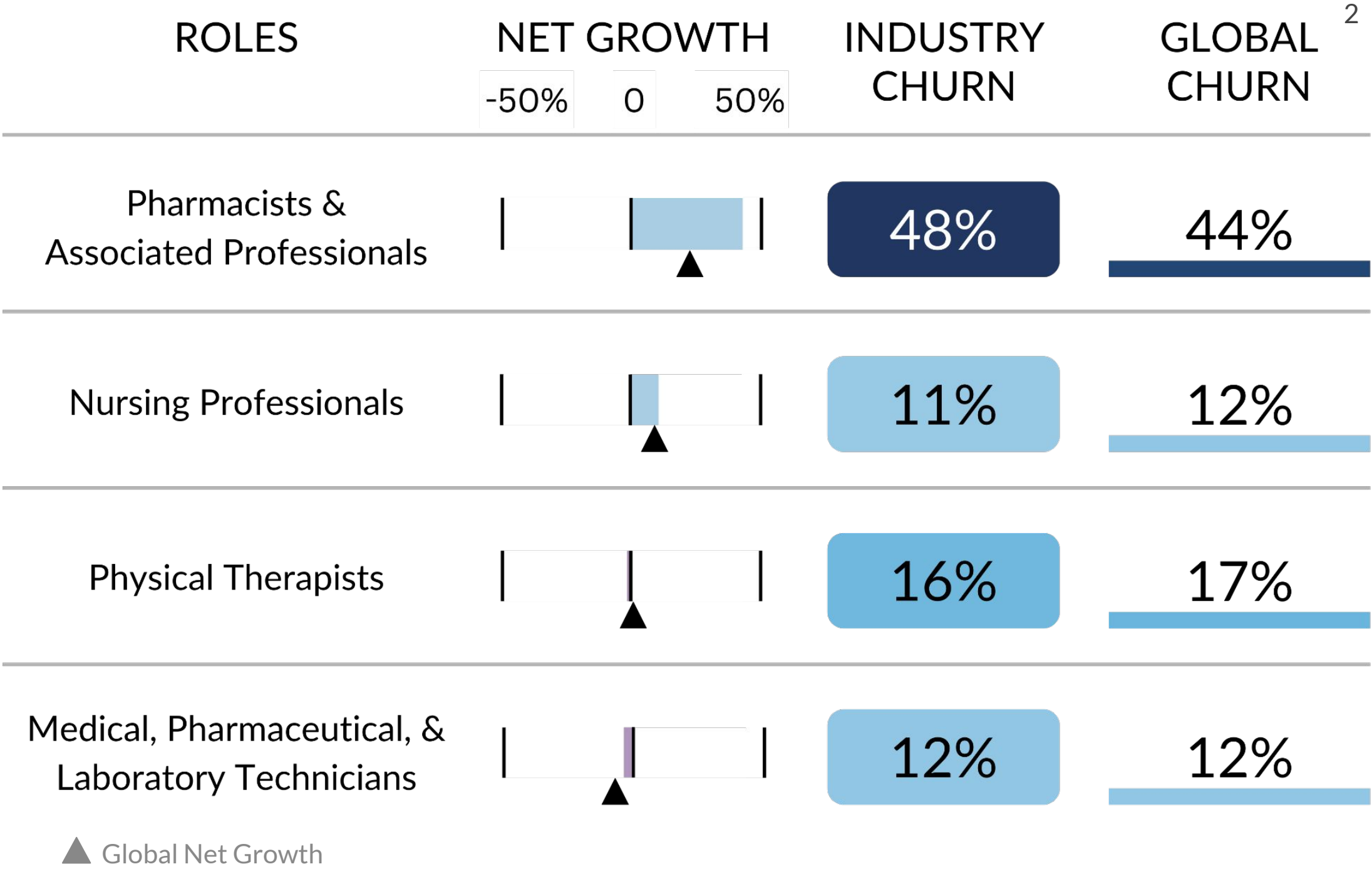
Global Shortfall of 10 Million Health Workers

The World Health Organization (WHO) estimates a projected shortfall of

10 Million

healthcare workers by 2030.

The healthcare worker shortage is already being felt in many low- or middle-income countries as skilled healthcare workers move to high-income countries in search of better pay, improved working conditions, and greater career opportunities and growth potential.¹



1. Global Health and Healthcare Strategic Outlook: A Shared Vision for 2035. (n.d). https://www3.weforum.org/docs/WEF_Global_Health_and_Healthcare_Strategic_Outlook_2023.pdf

2. The Future of Jobs Report 2023. (2023). World Economic Forum. <https://www.weforum.org/publications/the-future-of-jobs-report-2023/future-of-jobs-data-explorer/>

US Healthcare Poised for Growth

The need for healthcare jobs, from entry-level positions requiring certifications to professional positions requiring advanced degrees, is expanding rapidly.

In the United States, the Bureau of Labor & Statistics projects that 5 of the 30 fastest-growing occupations are healthcare roles.

Predictions suggest the United States will need about

1.8 Million

health care workers by 2032.³

Data excludes occupations that had a decline in wage and salary employment from 2019-2020 greater than the decline for all occupations from 2019 to 2020 (approximately 6%). These excluded occupations may have fast growth rates that do not reflect structural growth, but only cyclical recovery.

3. Fastest Growing Occupations : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics. (2024, April 17). Bureau of Labor Statistics. <https://www.bls.gov/ooh/fastest-growing.htm>



Nurse Practitioners



Medical & Health Services Managers



Epidemiologists

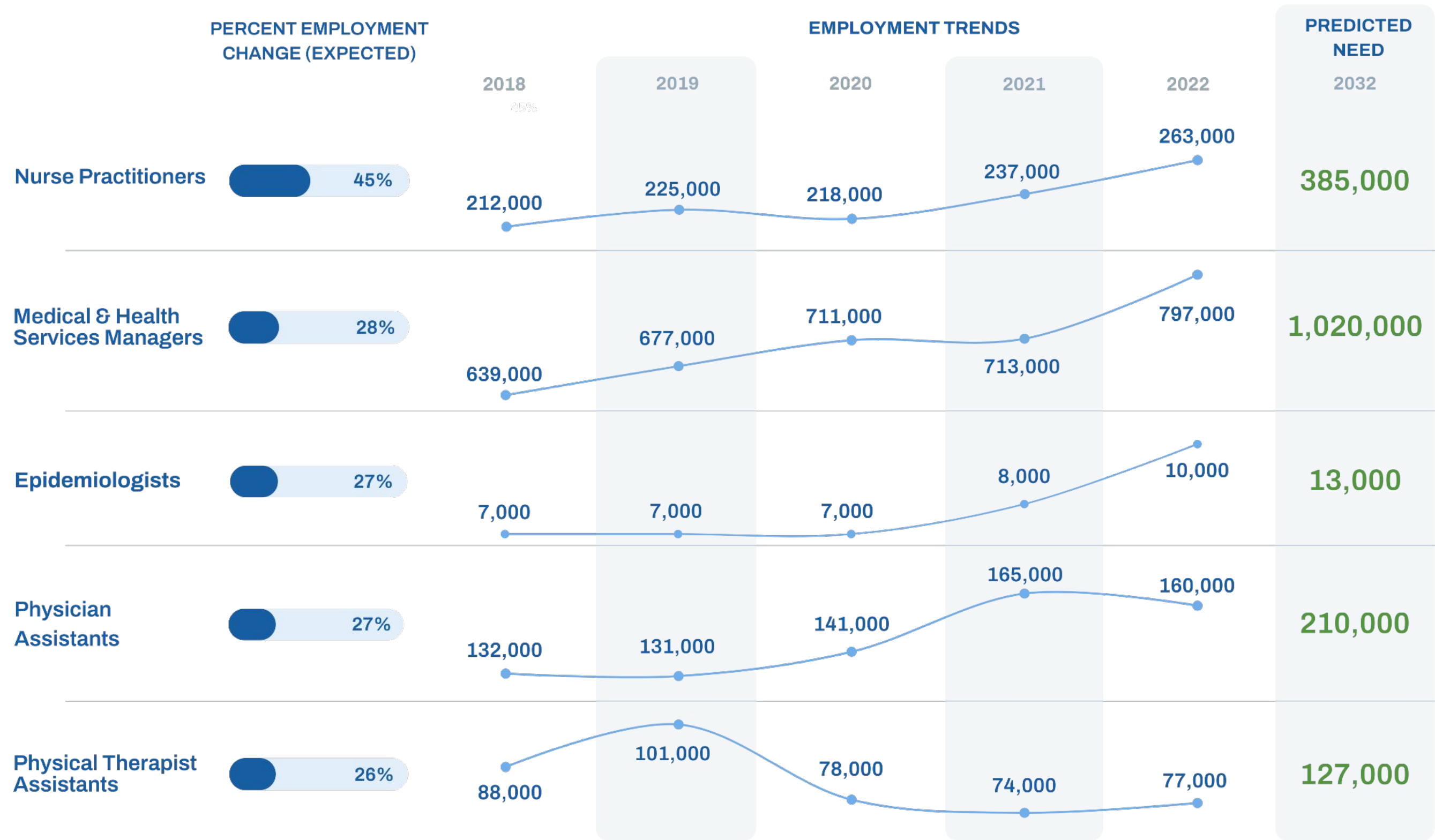


Physician Assistants



Physical Therapy Assistants

10 Fastest Growing Occupations in the U.S.



3. Fastest Growing Occupations : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics. (2024, April 17). Bureau of Labor Statistics. <https://www.bls.gov/ooh/fastest-growing.htm>

Why are we in Crisis?



As the world's population lives longer, a result of medical advancements and a steadily increasing standard of living, the demand for healthcare workers has outpaced our ability to train new ones.

As a result, current workers are resigning in record numbers, exacerbating the widening gap between the workforce we have and the one we need.

Industry leaders are looking to K-20 education to inspire, motivate, and train the next generation of healthcare workers to meet demand.

Dusty Moore
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Demand Outpaces Supply

Employee Churn

The vacancy rate—the difference between the number of job openings and hires—is increasing with about 710,000 vacant positions in the US as of May 2023, despite a slight downturn from the highest rate of more than a million in December 2022.⁴

The Great Retirement

Estimates suggest that as of 2022, 24% of the U.S. healthcare workforce will reach retirement age in the next decade, highlighting the need to train a new generation as the “Baby Boomer” generation leaves the workforce.⁵

4. Carrus, B., Essick, C., Laboissiere, M., Lapointe, M., & Murphy, M. (2023, September 29). *How health systems and educators can work to close the talent gap*. McKinsey & Company; McKinsey & Company. <https://www.mckinsey.com/industries/healthcare/our-insights/how-health-systems-and-educators-can-work-to-close-the-talent-gap>

Attracting Talent

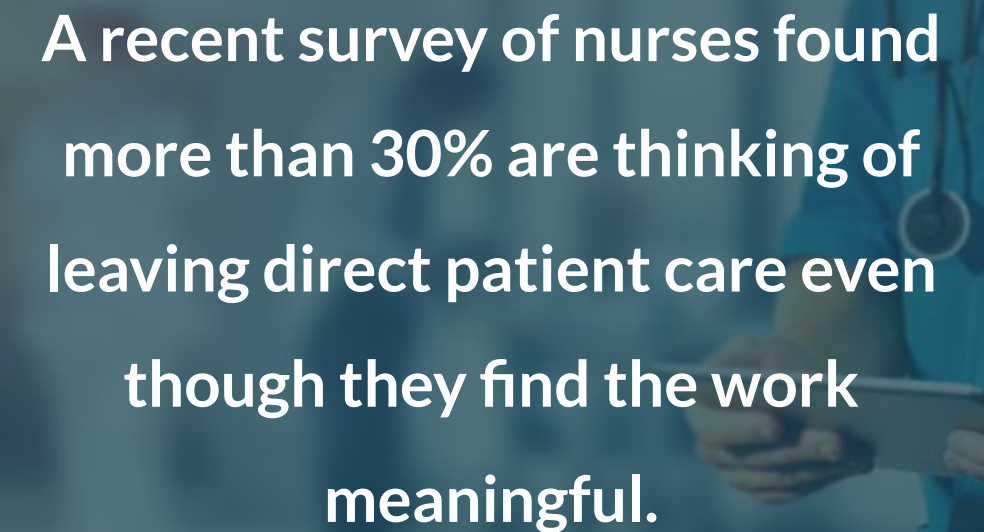
Attracting enough qualified employees in nursing, allied health, and many other roles has posed a significant challenge for the healthcare sector since before the COVID-19 pandemic.

Resignations among healthcare workers have increased steadily from about 400,000 per month in 2020 to nearly 600,000 per month in May 2023.⁴

Demand Outpaces Expected Graduates

McKinsey, a large management consultancy company, projects there will be one million additional nursing care jobs by 2031, primarily for certified nurse assistants, outpacing the number of individuals expected to complete degree programs based on current capacity.⁴

5. Smith, S. (2023, June 7). *Healthcare Occupations: Characteristics of the Employed : Spotlight on Statistics*. U.S. Bureau of Labor Statistics. Bureau of Labor Statistics. <https://www.bls.gov/spotlight/2023/healthcare-occupations-in-2022/home.htm>

A photograph of a nurse in blue scrubs, holding a clipboard and looking down at it. The image is slightly blurred and has a blue tint.

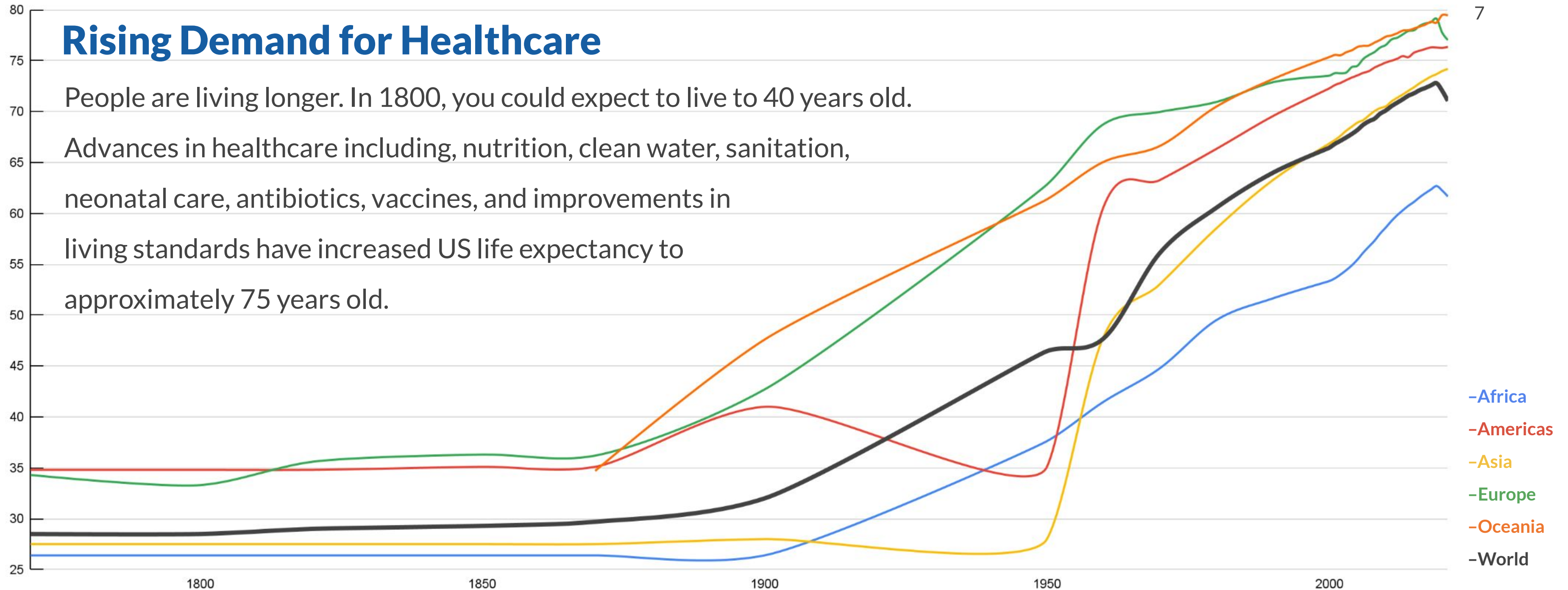
A recent survey of nurses found more than 30% are thinking of leaving direct patient care even though they find the work meaningful.

Increased Life Expectancy Drives Healthcare Growth

Rising Demand for Healthcare

People are living longer. In 1800, you could expect to live to 40 years old.

Advances in healthcare including, nutrition, clean water, sanitation, neonatal care, antibiotics, vaccines, and improvements in living standards have increased US life expectancy to approximately 75 years old.



6. Data source: UN WPP (2022); HMD (2023); Zijdeman et al. (2015); Riley (2005) – Learn more about this data
OurWorldInData.org/life-expectancy | CC BY

Accelerating Demand for Healthcare Workers

Exacerbated Labor Constraints

These severe labor supply constraints come at a time of accelerating demand for care because of an aging population, rising disease burden, exacerbated chronic conditions, and worsening mental health, among other factors.

4. Carrus, B., Essick, C., Laboissiere, M., Lapointe, M., & Murphy, M. (2023, September 29). *How health systems and educators can work to close the talent gap*. McKinsey & Company; McKinsey & Company. <https://www.mckinsey.com/industries/healthcare/our-insights/how-health-systems-and-educators-can-work-to-close-the-talent-gap>



Job category	2021 jobs, thousands	2031 jobs, thousands	2021 degree or certificate completions ¹	Gap ²
Nursing care	9,095	10,906	364,207	831,212
Specialty care ³	2,870	3,330	209,480	62,604
Primary care ³	858	1,077	72,261	13,420
Behavioral health	1,056	1,199	129,752	(12,717) ⁴
Pharmacy	812	837	14,721	38,675
Dentistry	686	769	34,289	36,517
EMS ⁵	273	303	10,985	11,701

¹To adjust for duplication, the number of completions within each instructional program was distributed to each corresponding occupation by way of a weighted average based on current employment within occupations.

²Gaps are calculated by subtracting completion from annual openings.

³Medical assistants are included in both primary care (33%) and specialty care (67%).

⁴Parentheses indicate a negative gap, representing that there is a greater number of people who can do the work than there is demand for the work.

⁵Emergency medical services.

Source: 2021 Lightcast data; US Bureau of Labor Statistics

CTE as a Healthcare Workforce Pipeline



As a global community, we need to engage students while they are young, partnering with industry, and ensuring that all CTE educators have the tools, lab activities, career exploration materials, and support to inspire the next generation of healthcare workers. Collectively, our health, quality of life, and longevity depend upon it.

Dusty Moore
President / CEO
iCEV



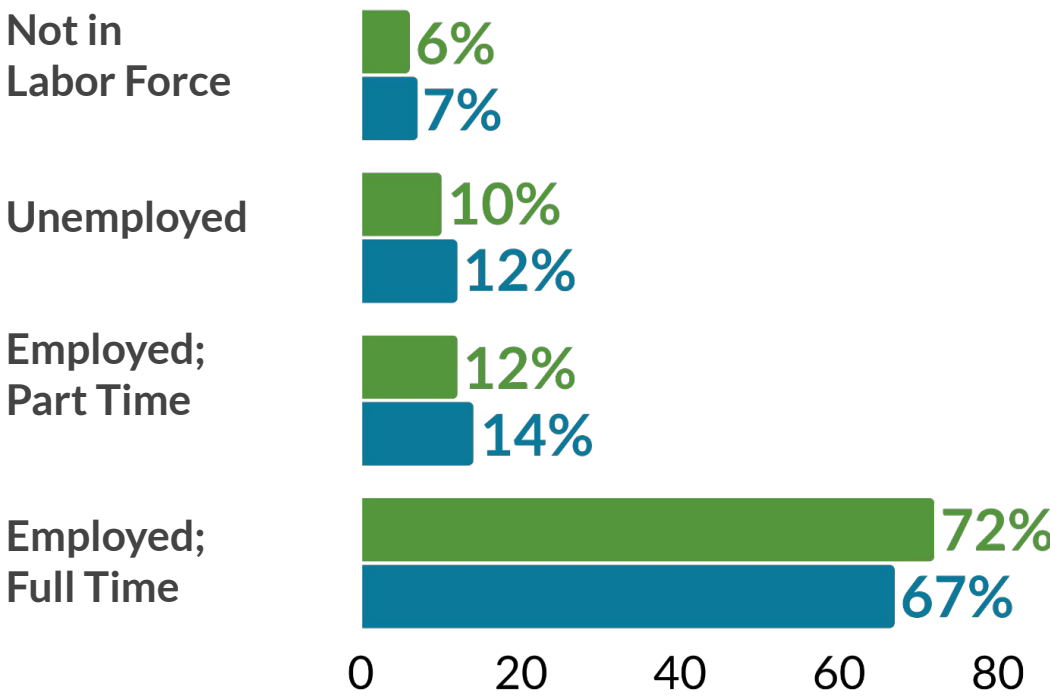
CTE Improves Outcomes

Credentialing Students via CTE

Access to industry certifications via CTE allows students to demonstrate capability to employers immediately after graduation. According to the National Healthcareer Association, districts currently offer a variety of industry recognized professional credentialing exams, giving students the ability to demonstrate job skills more readily.⁷

Improved Professional Success

Employment Status of CTE-Completers and Non-Completers 8 Years After Graduation

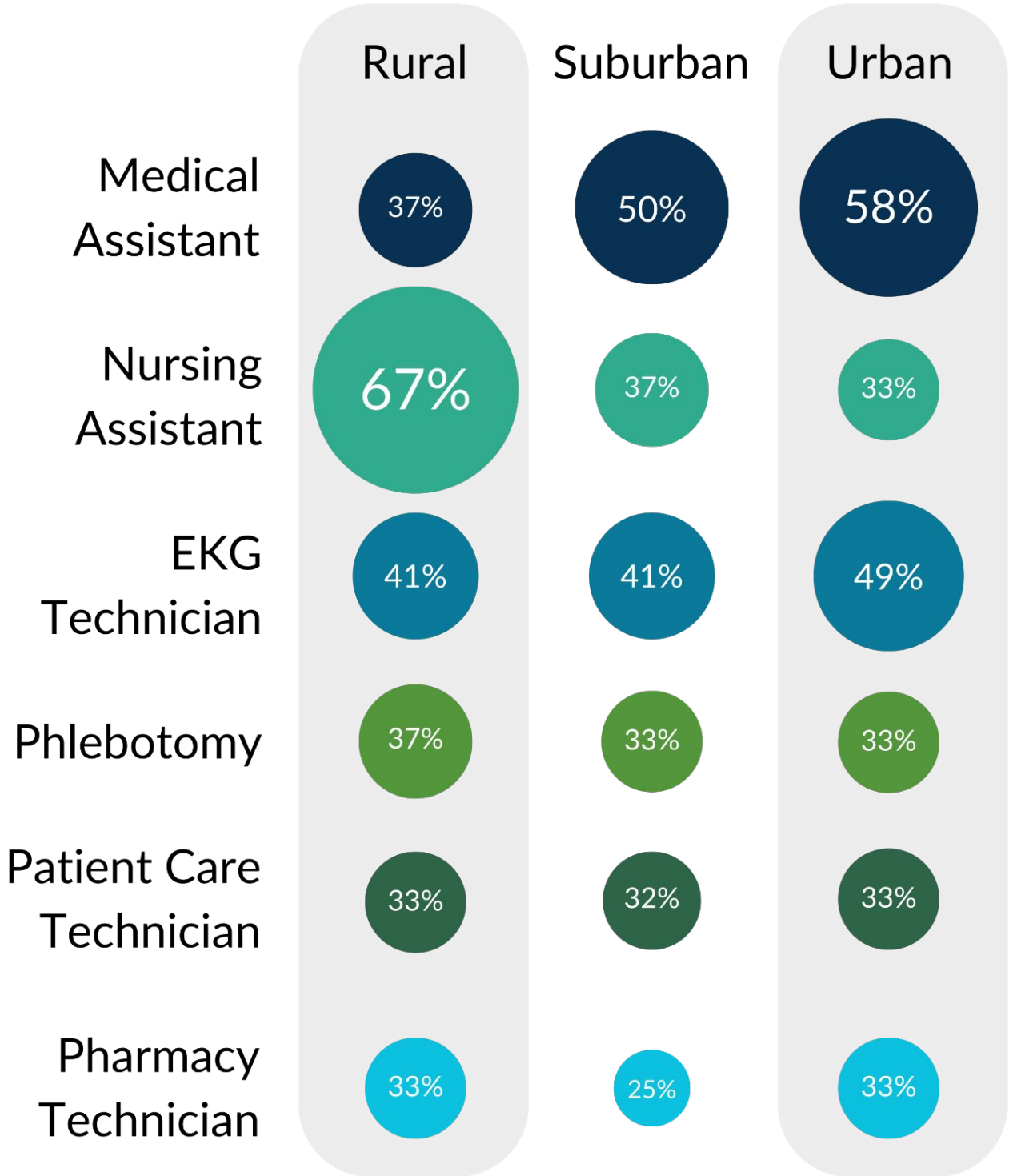


Further underscoring the benefits of CTE education, students who complete 2 or more courses in a single CTE pathway are 5% more likely to be employed full time and are 4% less likely to be working part time or unemployed 8 years after graduating from high school.⁸

7. Flynn, L. (2020, May 6). Pathways through CTE Across America. Nhanow.com; National Healthcareer Association. <https://info.nhanow.com/learning-leading-blog/pathways-through-cte-across-america>

8. CTE data story: insights into how CTE can improve students' income after they graduate. (2019). Ed.gov. <https://www2.ed.gov/datastory/cte/index.html>

Most Popular Recognized Professional Credential Exams Offered by District Type⁷



The Role of CTE Educators & Administrators



Career & technical educators and administrators are critical to transforming the workforce and ensuring a pipeline of trained healthcare professionals at all levels for the future.

Dusty Moore
President / CEO
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CTE Leadership Perspective

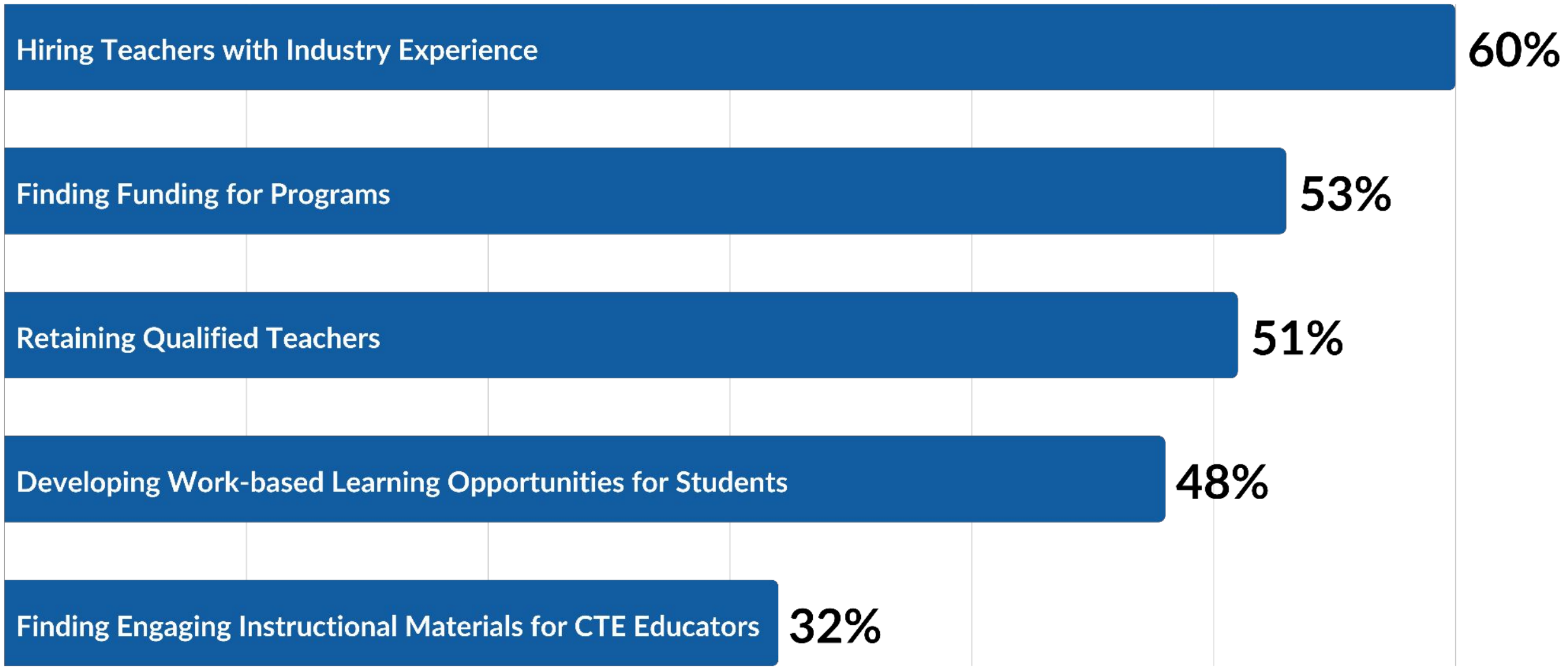
60%

Sixty percent of district CTE leaders cite “Hiring teachers with industry experience” as the number 1 challenge they face.

n=113 district leaders
Primary research conducted by Catapult X on behalf of iCEV



Top 5 Challenges District CTE Leaders Report



n=113
Primary research conducted by Catapult X on behalf of iCEV



Administrator Voices

Resources & Planning

“Planning for [high cost supplies and equipment] is typically 3-5 years out.”

- CTE Director

The biggest challenge ... is the continual change from the state level on course names, numbers and credits... We rely on consistency to be our foundation. This is very hard when the State Department [is] continually making changes and deletions usually at the time of year that students have already signed up for classes.

- Director; Occupational Education Center

n=113 district leaders

Primary research conducted by Catapult X on behalf of iCEV

Work Opportunities

We struggle to find “enough spots to intern in [our] community”.

- Superintendent

“We need ... more opportunities for job shadowing. The nearest hospitals are ... 45 minutes away.

- Superintendent of Schools

Qualified Educators

“The biggest challenge is finding qualified teachers to teach. We simply cannot compete with the the health field when it comes to providing salary and benefits.”

- High School Assistant Principal

Program Capacity

My district doesn’t have “enough ‘spots’ in the program for our students - we send our students to a local Career Tech for CTE courses and it is a first come first served type of situation.”

- Assistant Superintendent

It’s important to remember that not all students will be doctors - and that’s ok! There are plenty of great jobs they can train for.

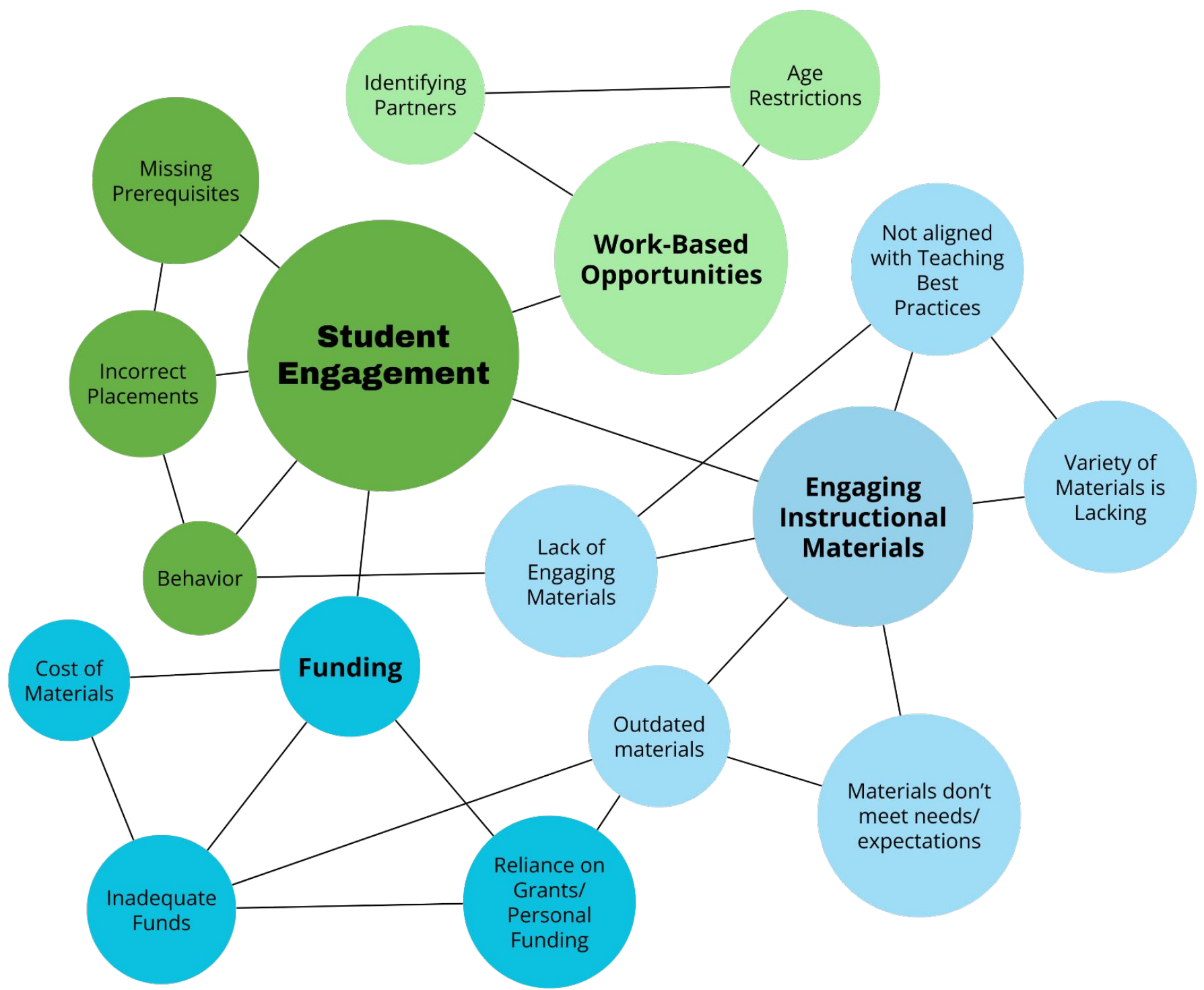
- CTE Supervisor

CTE Educator Perspective

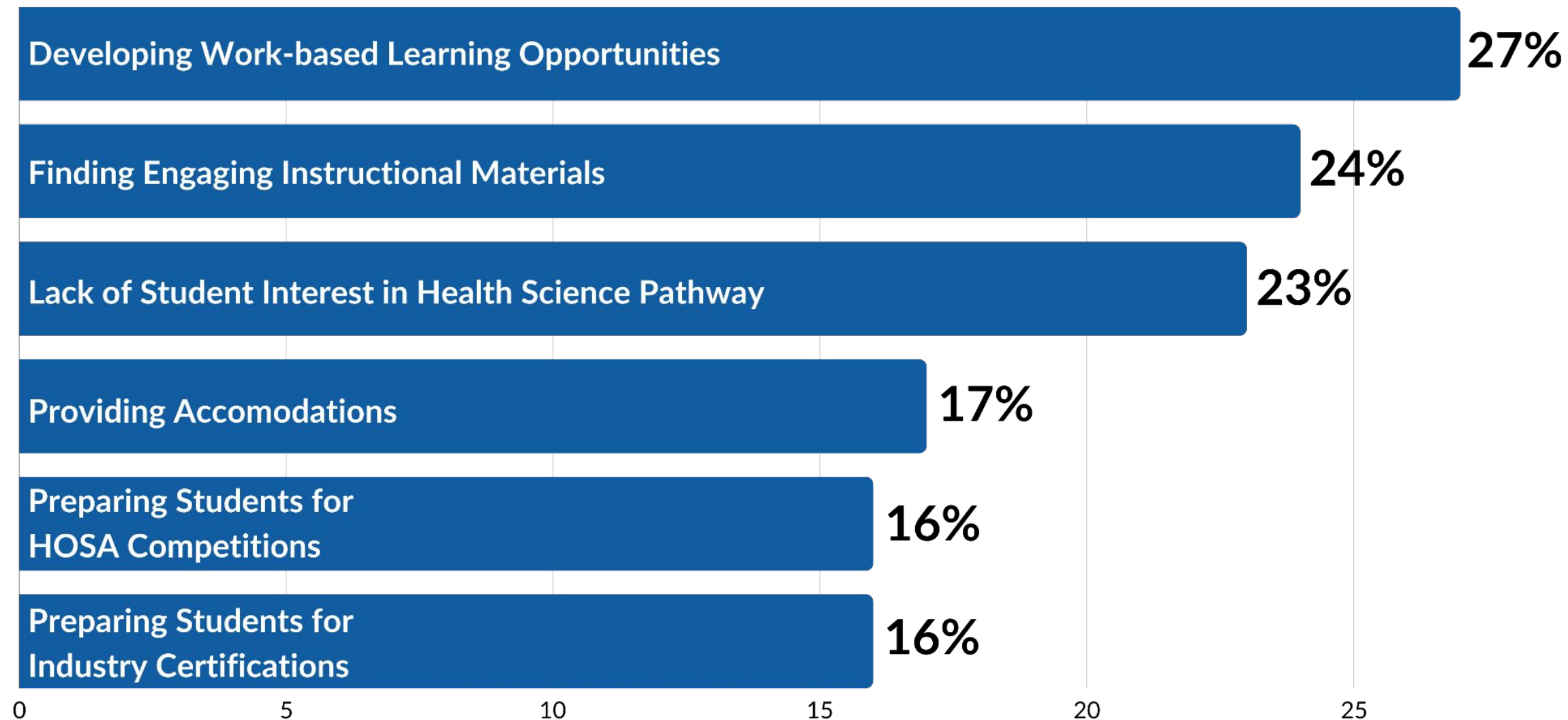
17%

Seventeen percent of CTE Educators identified “lack of student interest in the health science career pathway” as the primary challenge they face.

n=135 educators
Primary research conducted by Catapult X on behalf of iCEV



Top 6 Challenges CTE Educators Report



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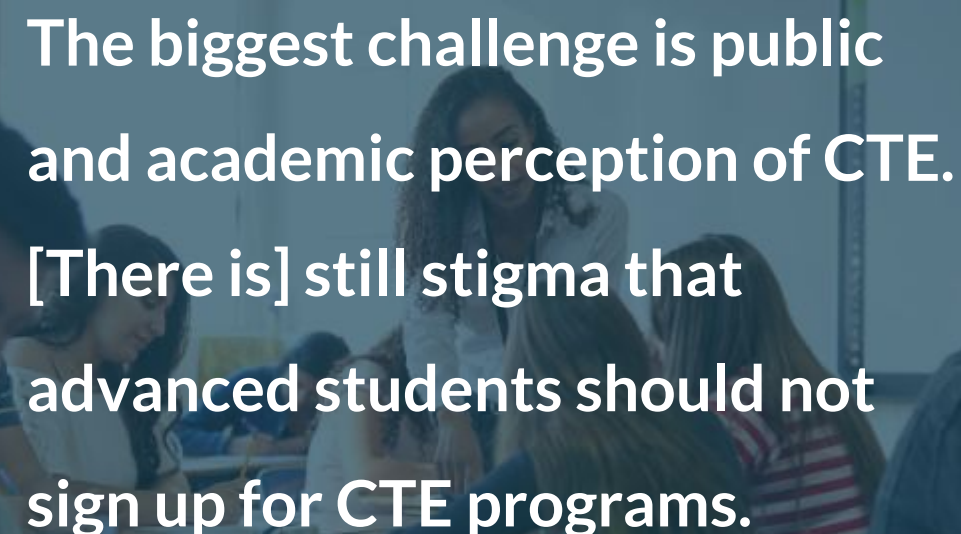


Educator Voices

35

states reported CTE teacher shortages in manufacturing, information technology, and health sciences

Staff, K. (2023, February 27). We need to know more about CTE teachers - Kappan Online. Kappan Online.
<https://kappanonline.org/more-research-on-cte-teachers-anglum/>



The biggest challenge is public and academic perception of CTE. [There is] still stigma that advanced students should not sign up for CTE programs.

Conflicting Priorities

“So much to teach with so little time. Last-minute changes [to] students' schedules [and absences] due to testing such as AP, SATs, etc.”

- School Nurse, RN

Industry-alignment Challenges

“One of the biggest challenges in teaching health science for CTE is keeping the curriculum up-to-date with rapidly evolving medical knowledge and technologies, ensuring students receive relevant and practical skills that align with industry standards.”

- Medical Arts Instructor

Hands-On Experiences

“Virtual [simulations are] great for develop[ing] decision making, but cannot replace physical simulation for skill development.”

- Health Sciences Teacher

Student Prerequisites

There is a disconnect between what guidance counselors believe the necessary “level of skill and knowledge that is needed to work in a health science field, and they often place students into my program that do not have the prerequisite[s] or abilities to do well in the course.”

- Health Careers Instructor

Overcoming Educational Challenges



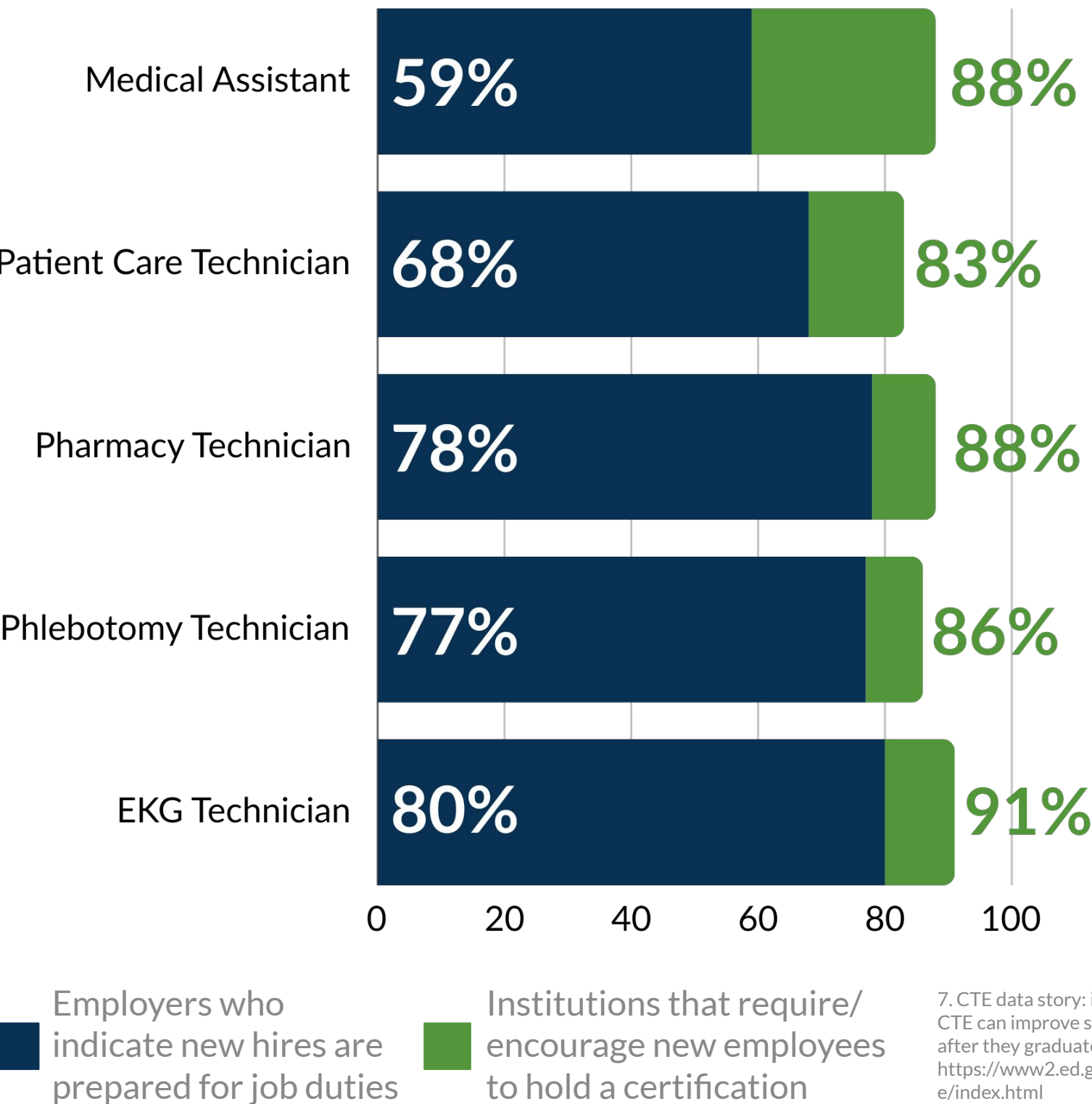
Between budget constraints, changing requirements, and a widening gap in students' prerequisite skills, CTE programs are feeling more pressure than ever to find innovative solutions as they prepare the next generation of skilled healthcare workers.

Dusty Moore
President / CEO
iCEV



Overcoming Educational Challenges

7



7. CTE data story: insights into how CTE can improve students' income after they graduate. (2019). Ed.gov. <https://www2.ed.gov/datastory/cte/index.html>

Unmet Employer Expectations

While many institutions encourage or require new employees to hold a certification in their given field, employers consistently report a lower percentage of new employees being prepared for their job duties.⁷

Potential Root Causes

- 1

CTE Exploration vs. Concentration

2

Dual Credit Availability

3

Recruiting Educators with In-Field Experience

The Gap between Expectations and Readiness

CTE Exploration vs. Concentration

While

77%

percent of high school students took at least one CTE course in the mid 2010's, only

37%

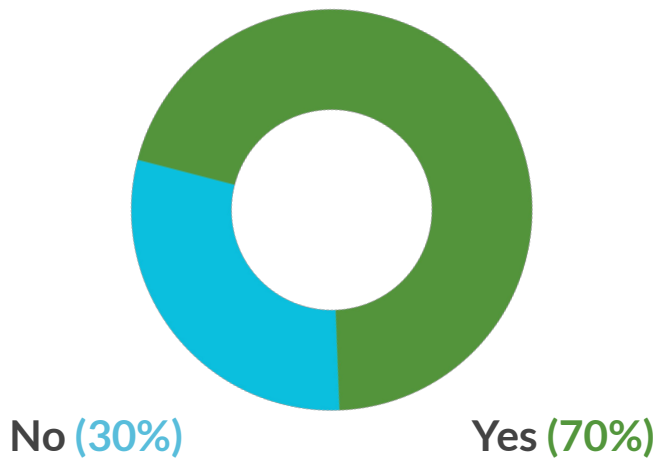
of students went on to earn at least two credits in a single CTE career cluster, suggesting that students are open to exploring CTE pathways but may need encouragement to concentrate on a path.⁷

7. CTE data story: insights into how CTE can improve students' income after they graduate. (2019). Ed.gov. <https://www2.ed.gov/datastory/cte/index.html>

Recruiting Educators with In-Field Experience

Data suggests that 30% of CTE educators do not have healthcare experience prior to teaching, leading to a potential disconnect between an educator's ability to convey real-world scenarios and solutions.

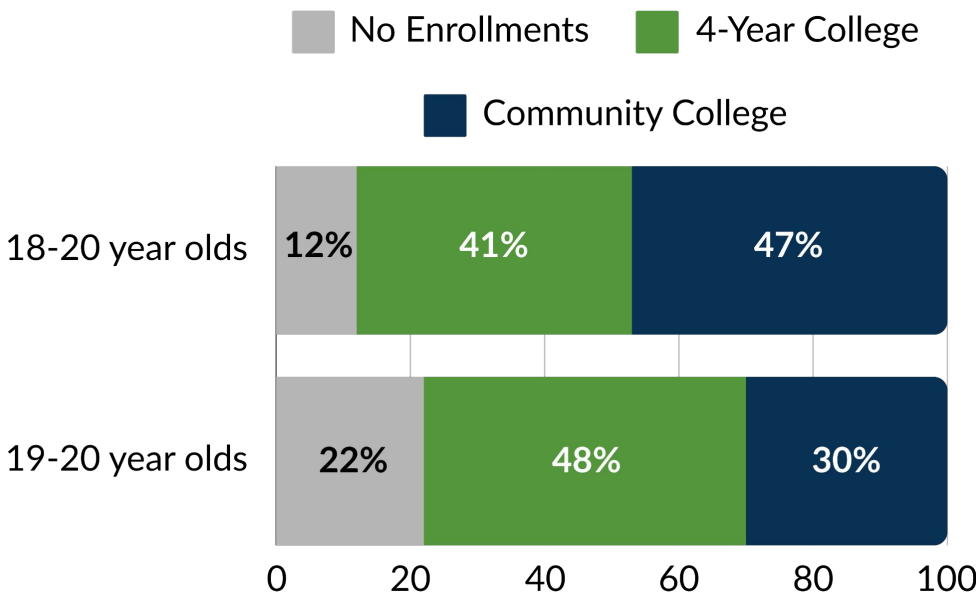
CTE Educators with In-Field Experience Prior to Teaching



Dual Credit Availability

Research indicates that 88% of students in dual credit programs pursue higher education and typically complete degrees faster than their peers.⁹ With less than half of CTE health science programs in the U.S. offering dual credit classes, there is a substantial opportunity to increase the pipeline of qualified healthcare workers.


First College Matriculation Among Former Dual Enrollment Students⁸





9. Fink, J., Jenkins, D., & Yanagiura, T. (n.d.). September 2017 What Happens to Students Who Take Community College "Dual Enrollment" Courses in High School? <https://ccrc.tc.columbia.edu/media/k2/attachments/what-happens-community-college-dual-enrollment-students.pdf>


Toward a Healthy Future


5 Actionable steps for CTE Programs

- 

Secure partnerships with local healthcare institutions for access to internships, expensive and/or large healthcare equipment, and information about trends in the healthcare industry.
- 

Offer a wide variety of industry recognized credentials and exams in dual credit programs, and encourage students take two or more courses in a single CTE Healthcare cluster.
- 

Train school staff in best practices for CTE placement, focusing on student interest and prerequisite skills.
- 

Create evaluation and vetting committees composed of CTE educators and administrators to review instructional materials, curriculum, resources, and vendor services.
- 

Develop relationships with employers to learn about job-readiness expectations and incorporate those into CTE courses.

Where iCEV Comes In



We've worked with CTE educators for over 35 years. We understand how challenging it is to manage the responsibilities of teaching, managing a classroom, and ensuring students have access to high quality curriculum and supports.

It's why those of us at iCEV are dedicated to providing high quality tools for health science educators.

Dusty Moore
President / CEO
iCEV



About iCEV

The All-in-One CTE Solution

Since 1984, [iCEV](#) has specialized in providing quality CTE curriculum and educational resources.

iCEV is the most comprehensive online resource for CTE educators and students, offering curriculum for several major subject areas, including agricultural science, trade & industrial education, business & marketing, career exploration, family & consumer science, trade & health science, law enforcement and STEM education.

iCEV also acts as a certification testing platform for industry certifications. Recognized companies and organizations utilize iCEV as the testing platform for their certifications.

Additionally, iCEV offers [Eduthings](#), a CTE data management platform that simplifies reporting for industry certifications, work-based learning, CTSO participation, and more.

Solutions

- 1 Standards-Aligned Curriculum
- 2 Certification Testing & Preparation
- 3 Data Reporting & Analysis

More than a Vendor

We're educators with a passion for what we do. By partnering with us, you gain access to a responsive team of real people with nearly 40 years of experience. We're here to provide CTE learners like yours better learning experiences today so they'll have more career opportunities tomorrow.

iCEV Partners

The All-in-One CTE Solution

iCEV has partnered with some of the leading industry certification programs and organizations to ensure that students have access to the most comprehensive library of certifications available.

Industry partners include American Medical Certification Association, Florida CNA, National Nurse Aide Assessment Program, National Consortium for Health Science Education (NCHSE), National Healthcareer Association (NHA), NOCTI, National Registry of Emergency Medical Technicians (NREMT)



Course Offerings

- | | |
|---|---|
| Anatomy & Physiology | Medical Microbiology |
| Certified Nursing Assistant (CNA) Preparation Materials | Medical Terminology |
| Counseling & Mental Health | Nutrition & Wellness |
| Forensic Science | NCHSE National Health Science Standards |
| Health Science Theory | Pathophysiology |
| Medical Assistant | Principles of Health Science |
| Medical Coding & Billing | Professional Communications |

Additional Course Offerings

- | | |
|------------------------------|--------------------------|
| Anatomy & Physiology | Medical Assistant |
| Emergency Medical Responder | Medical Office Assistant |
| Emergency Medical Technician | Nursing Assistant |
| Health Care Foundations | Patient Care Technician |
| Health Career Readiness | |

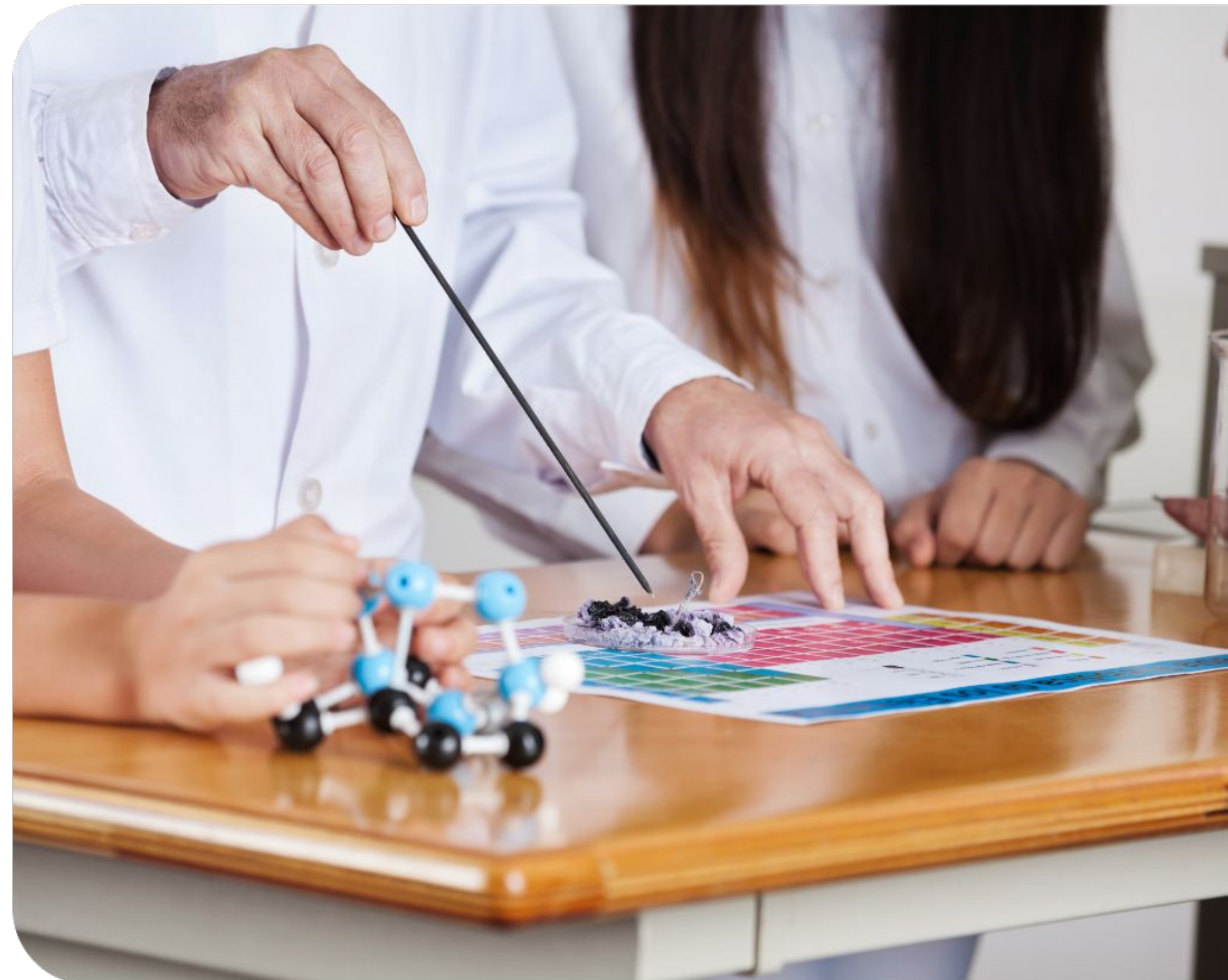
Learn More About iCEV

Want to learn more about how iCEV supports CTE educators with:

- 1 Standards-Aligned Curriculum
- 2 Certification Testing & Preparation
- 3 Data Reporting & Analysis

Book a Demo at:

www.icevonline.com/demo



Resources

By Order of Appearance

1. Global Health and Healthcare Strategic Outlook: A Shared Vision for 2035. (n.d.). https://www3.weforum.org/docs/WEF_Global_Health_and_Healthcare_Strategic_Outlook_2023.pdf
2. The Future of Jobs Report 2023. (2023). World Economic Forum. <https://www.weforum.org/publications/the-future-of-jobs-report-2023/future-of-jobs-data-explorer/>
3. Fastest Growing Occupations : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics. (2024, April 17). Bureau of Labor Statistics. <https://www.bls.gov/ooh/fastest-growing.htm>
4. Carrus, B., Essick, C., Laboissiere, M., Lapointe, M., & Murphy, M. (2023, September 29). How health systems and educators can work to close the talent gap. McKinsey & Company; McKinsey & Company. <https://www.mckinsey.com/industries/healthcare/our-insights/how-health-systems-and-educators-can-work-to-close-the-talent-gap>
5. Smith, S. (2023, June 7). Healthcare Occupations: Characteristics of the Employed : Spotlight on Statistics: U.S. Bureau of Labor Statistics. Bureau of Labor Statistics. <https://www.bls.gov/spotlight/2023/healthcare-occupations-in-2022/home.htm>
6. Data source: UN WPP (2022); HMD (2023); Zijdemans et al. (2015); Riley (2005) – Learn more about this data [OurWorldInData.org/life-expectancy](https://www.OurWorldInData.org/life-expectancy) | CC BY
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