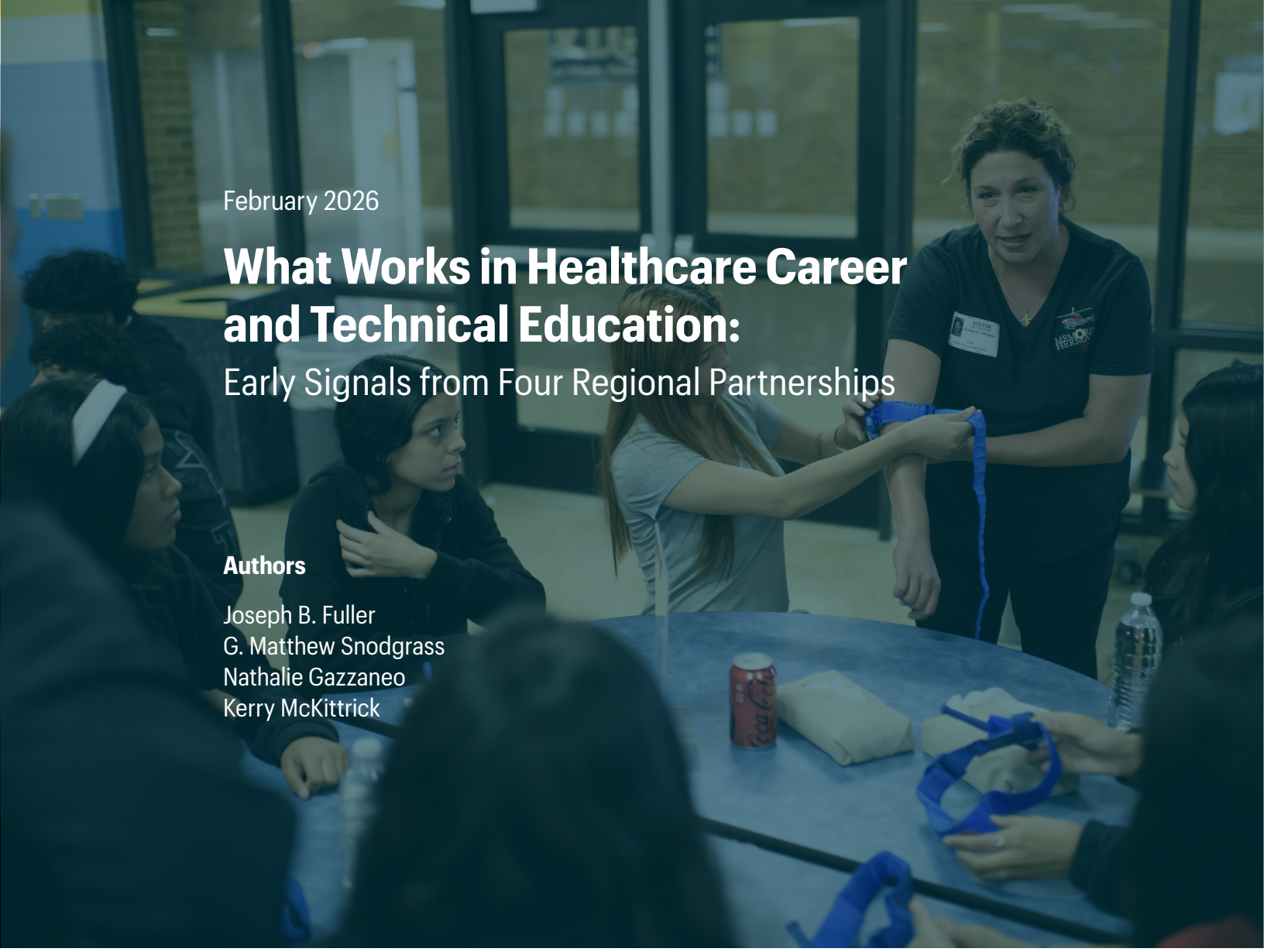

February 2026

What Works in Healthcare Career and Technical Education:

Early Signals from Four Regional Partnerships

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THE PROJECT ON WORKFORCE

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About the Project on Workforce

The Project on Workforce is an interdisciplinary, collaborative project between the Harvard Kennedy School's Mossavar-Rahmani Center for Business and Government, the Harvard Business School Managing the Future of Work Project, and the Harvard Graduate School of Education. The Project produces and catalyzes basic and applied research at the intersection of education and labor markets for leaders in business, education, and policy. The Project's research aims to help shape a postsecondary system of the future that creates more and better pathways to economic mobility and forges smoother transitions between education and careers. Learn more at www.pw.hks.harvard.edu.

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Executive summary

In 2024, a philanthropic funder invested more than $250 million to launch a network of 12 healthcare career and technical education (CTE) sites across urban and rural communities in the Eastern United States. Each site is built around a partnership between at least one secondary school, a local healthcare system, and at least one postsecondary partner. The goal of these partnerships is to prepare students for high-demand, family-sustaining healthcare careers or further postsecondary education. This report explores the earliest data from four sites that launched in the 2024-2025 academic year: Boston, Charlotte, Dallas, and Houston.

The schools share a common vision, but the models are diverse. This variation is both a strength and a challenge, complicating cross-site comparisons but enabling each school to fit its local labor market, district context, and capacity constraints. **Given the very early data and the descriptive nature of the examination, the findings in this report should be viewed as preliminary and indicative.**

- **Edward M. Kennedy Academy for Health Careers (EMK) in Boston**, a public charter school, is partnering with Mass General Brigham health system and Bunker Hill Community College. EMK was refreshed as a part of its participation in the initiative, expanding its healthcare pathway offerings and receiving an early college designation.
- **Hawthorne Academy of Health Sciences (Hawthorne) in Charlotte** was also refreshed through a partnership between Charlotte-Mecklenburg Schools, Atrium Health, and Carolinas College of Health Sciences. Like EMK, Hawthorne has been recognized as an early college high school. Unique to Charlotte, the postsecondary partner is a subsidiary of the health system.
- **Uplift Heights Healthcare Institute (Uplift Heights) in Dallas** is a partnership between Uplift Education, a Texas public charter school network, Baylor Scott & White Health, and multiple postsecondary institutions. The Uplift Heights Healthcare Institute was also launched as a refresh of the existing Uplift Heights High School. In 2025, it expanded to include a second institution, Uplift Grand.
- **Health Education and Learning (HEAL) in Houston** is the only new school to launch in 2024. It is a partnership between Memorial Herman Health System, Aldine Independent School District, and multiple postsecondary partners. HEAL follows a "school-within-a-school" model and is nested within the pre-existing Nimitz High School.

Early enrollment data from Boston, Dallas and Houston suggest the initiative is reaching students historically underrepresented in health science CTE programs.

- **The large majority of students are Black or Hispanic/Latino**, constituting a greater share of the student population than is seen in statewide CTE health science programs, but in line with their urban districts.
- **Female students are the majority in all three reporting sites**, which mirrors long-standing gender patterns in health science CTE. However, Boston and Dallas appear more gender-balanced than their state health science CTE benchmarks, suggesting some progress toward greater inclusion of male students.
- **The share of English learners and special education students varies widely by site.** The share of English learners ranges from about 13% (Boston) to over 50% (Dallas), and the share of special education students ranges from roughly 9% (Dallas) to 31% (Boston).

Houston—the only currently operating site in which students select a healthcare pathway in ninth grade–offers a preliminary picture of how students sort unevenly into healthcare pathways. The distribution suggests that student preferences and information are shaping pathway choices.

- **Nursing is by far the most popular pathway**, with 35.5% of students selecting that option.
- **In this very early data, gender, race/ethnicity, and home language appear to be potentially associated with pathway choice.** Female and Hispanic/Latino students cluster in Nursing, Medical Imaging, and Business Administration; Black students are overrepresented in Pharmacy and Physical/Occupational Therapy; students from English-only households are overrepresented in Pharmacy, Business Administration, and Physical/Occupational Therapy.

Attendance data provides an early view into student engagement levels and underscores the need for targeted student supports in some cases.

- **Houston and Dallas** show attendance and chronic absenteeism rates that are generally comparable to or better than their districts, an encouraging signal in the first year of implementation.
- **Boston** exhibits particularly high chronic absenteeism among 12th graders in the accelerated CNA and EMT programs. It should be noted, however, that the site only had 37 students in its 12th grade supplementary program. While rate of chronic absenteeism in the Boston 12th-grade program was high, this was not found in the 9th-grade cohort.
- **Female students have higher rates of chronic absenteeism** than male students at all three sites, in some cases more than 50% greater. While the strength of evidence is weak, special education students also show notably higher rates of chronic absenteeism.

Work-based Learning (WBL) and postsecondary credit accumulation was not initially planned to begin until students reached the later years of high school, but some sites offered these opportunities to students as early as 9th grade.

- **Postsecondary credit attainment is emerging but not universal.** Houston and Charlotte have enabled 9th graders to earn college credits; Dallas and Boston focused more on seniors in transitional programs. Where attempted, most students are successful in earning credit.
- **Work-based learning (WBL) participation is high in some sites and modest in others.** Dallas and Houston offer near-universal unpaid WBL for 9th graders with substantial hours; Charlotte provides shorter experiences for all students. Boston engages a smaller share of 9th graders and is the only site to offer paid WBL for seniors.

Future reports will explore site performance along the measures discussed here as well as a set of additional measures tracking student success post graduation. The analyses presented here are based on very preliminary data and offer an initial descriptive glimpse into site operations. Therefore, substantial caution should be exercised in drawing broad conclusions from the results presented here. As additional sites are launched, additional students matriculate, current students progress, and additional data are reported, the evidentiary basis for robust conclusions and the delineation of trend will grow.

Introduction

In 2024, a philanthropic funder invested more than $250 million to launch a network of 10 healthcare career and technical education (CTE) high schools across the Eastern United States. The goal of these high schools is to provide students with the education and training necessary to earn a family-sustaining wage in high-demand healthcare roles directly after graduation or to continue their education at a postsecondary educational institution. Each site is a partnership between a local healthcare system, at least one secondary school, and at least one postsecondary partner.

The network was expanded in 2025 to include an additional two sites, resulting in a total of 12 distinct sites across both rural and urban communities.[1] The launch of the 12 sites is staggered across three years to accommodate the readiness of the site to launch the initiative. Of the 12 sites, five launched for the 2024-2025 academic year, five launched in the 2025-2026 academic year, and two are scheduled to launch ahead of the 2026-2027 academic year.

The heart of the initiative is the construction of meaningful partnerships to drive value for the community and its youth long after the infusion of capital injected by the philanthropic funder has ceased. While heterogeneity in site partnership exists, each has, at a minimum, three members: at least one secondary educational partner, at least one postsecondary educational partner, and a healthcare system partner.

The Project on Workforce is leading the multi-year evaluation efforts for this initiative. Our purpose is to understand the impact of the partnerships on student success and to document the return on investment for the partners.[2] The following report examines the initial data returns from the healthcare high school partnerships that launched during the 2024-2025 academic year. Specifically, it considers partnerships in four geographies: Boston, Massachusetts; Charlotte, North Carolina;[3] Dallas, Texas; and Houston, Texas.[4] This report is the first in a series meant to provide insight into the functioning of each site and to provide schools and healthcare system partners information that may inform their continuous improvement efforts.

The data examined here contain aggregate information documenting enrollment trends and leading indicators of student success including attendance, participation in work-based learning, credential attainment, postsecondary participation, and academic achievement for the first cohort of students receiving education and training. These data are stratified by age, gender, race, and language spoken at home. The data were also reported separately for students who were English language learners, eligible for free or reduced lunch, homeless, on an Individual Education Plan (IEP) or 504 plan, in the foster care system, or identified as gifted and talented. All indicators and stratification variables were selected by the Project on Workforce.

All data analyzed here capture student information during the period of January 1, 2025, through June 30, 2025. The data was shared in aggregate; it contained no individual-level or personally identifiable information. A great deal of thanks is owed to each of the partners for the collection and reporting of the data. While care was taken to ensure that all data is as complete and accurate as possible, the analysis below is predicated on the accuracy of the data supplied. Not all sites reported on all indicators and stratifications; the missing data limits our ability to examine certain stratifications of the data (e.g., stratification by household income). It should also be noted that the data used as the basis for the report is very early in program implementation and all analyses are purely descriptive. As such, caution should be used when interpreting the features of the data described below.

Model Summaries

As discussed above, each site was formed as a partnership between at least three entities: at least one secondary education institution, at least one postsecondary institution, and a local healthcare system. The goal of each of these partnerships was shared – providing students with the training and education necessary to earn a family-sustaining wage or to continue with additional postsecondary education while simultaneously addressing healthcare workforce shortages. While the type of partners, the objectives of the partnership, and certain CTE pathway elements were shared across sites, each was afforded significant flexibility in developing the model best suited to achieve these objectives in their local context. This flexibility has led to significant variation in model structure across sites.

One source of the variation in model designs across sites was the type of CTE healthcare high school. Some sites determined that the establishment of a new school would best meet their local needs.[5] Others determined that the optimal approach in their local context was a reinvention, or a "refresh" of an already operating school.[6] The first class to benefit from a full four years of exposure to the model, in both "refresh" and new school sites, were matriculating 9th-grade students in the Class of 2028. However, in "refreshed" sites, there were currently enrolled students who, due solely to timing, were unable to avail themselves of the full benefit of the refreshed model. To support these students as they transition out of the secondary educational institution, pilot 12th grade enrichment programs were funded in each of the "refresh" sites. These pilot programs were not a part of the broader initiative but aimed to provide 12th-grade students with supplemental training and education beyond that which would have been provided prior to the refresh. It should also be noted that the numbers of students in the supplementary 12th grade programs were small: 26 students in Dallas, 37 students in Boston, and 16 students in Charlotte.

Below we describe the models established in four of the five sites that launched their CTE healthcare high school for the 2024-2025 academic year – Boston, Dallas, Houston, and Charlotte.

Boston

The Boston site is a partnership between Edward M. Kennedy Academy for Health Careers (EMK)—a Horace Mann charter school in the Boston Public Schools District—Mass General Brigham healthcare system, and Bunker Hill Community College. While EMK predates the CTE Healthcare High School initiative, the school was re-imagined as a part of its participation in the initiative. Resulting from this re-invention of the school, EMK received early college designation and plans to expand the number of students served to 800 at steady state.

Additionally, as part of the redesign, the number of pathways available to students is expected to grow to three – Health Assisting, Medical Assisting, and Biotechnology. EMK is also offering 12th grade students the opportunity to pursue a path resulting in either a Certified Nursing Aide (CNA) certification or an Emergency Medical Technician certification.

Houston

Health Education and Learning (HEAL) is a 9th through 12th grade CTE healthcare high school created from a partnership between Memorial Herman Health System, Aldine Independent School District, and multiple postsecondary partners. HEAL follows a "school-within-a-school" model with HEAL nested inside the pre-existing Nimitz High School. HEAL matriculated its initial 9th-grade class in August 2024 and will ultimately serve 760 students each year. Before entering 9th grade, HEAL students select one of five healthcare pathways – Nursing, Healthcare Business Administration, Pharmacy, Physical and Occupational Therapy, or Medical Imaging. Each

of these pathways will provide students with 15-24 transferable credits, hospital-based learning opportunities, mentorship, and at least one industry certification. HEAL is a net new school, and as such there were no 12th grade students in need of additional support during the 2024-2025 academic year and no 12th-grade pilot program was developed.

Dallas

In Dallas, Uplift Heights Healthcare Institute (Heights) was launched for the 2024-2025 academic year. Uplift Heights is a partnership between Baylor Scott & White Health, the largest not-for-profit health system in Texas, and Uplift Education, the largest free public charter network in North Texas, and multiple postsecondary partners. Like Boston, the Uplift Heights Healthcare Institute was a redesign of an existing school, Uplift Heights High School. For the 2025-2026 academic year, the Dallas site grew to include a second Uplift institution, Uplift Grand[7], where students will be able to select between Nursing and Healthcare Operations pathways.

At Heights, students will select one of four healthcare pathways at the end of their 10th-grade year – Nursing, Healthcare Therapeutics, Healthcare Operations, or Biomedical Sciences. As additional classes are added to Heights, the number of students served is expected to grow to 800. Heights also provides healthcare learning opportunities for 12th grade students. These participating 12th grade students were able to choose between a patient care technology or certified medical assisting pathway.

Charlotte

The Charlotte site consists of a partnership between the Charlotte-Mecklenburg Schools, Atrium Health, and Carolinas College of Health Sciences. The partners launched a refresh of the Hawthorne Academy of Health Sciences (Hawthorne) in the 2024-2025 academic year. The Charlotte model is unique in that the postsecondary partner, Carolinas College of Health Sciences, is a subsidiary of the health system partner, Atrium Health. The partnership and governance structure in Charlotte was modeled on a similar CTE healthcare high school partnership in neighboring Cabarrus County which is also co-led by Atrium Health.[8]

For the 2025-2026 academic year, the refreshed Hawthorne was awarded designation as a Cooperative Innovative High School by the North Carolina State Board of Education and the State Board of Community Colleges, which formally recognized Hawthorne's early college model.[9,10] In the Hawthorne model, students will have the opportunity to earn a Certified Nursing Aide (CNA) certificate, a tuition-free associate's degree in General Studies, transferable college credits, and the opportunity to select one of four pathways in the spring of the 10th grade year. The pathways available to Hawthorne students include Healthcare Simulation, Neurodiagnostic Technology, Nursing, and Radiological Technology. The refreshed Hawthorne will ultimately serve 400 students when at capacity.

The Charlotte model is unique, but data limitations will largely restrict quantitative examination of the site. Unlike the other sites, Charlotte did not share sufficient data to determine student demographics or leading indicators of success. It is hoped that additional data will be forthcoming and later work in this series will address the performance of this interesting model.

Student Enrollment Trends

The following section explores the demographic distribution of the student population in the three sites that submitted sufficient data to develop an understanding: Boston, Dallas, and Houston. As noted above, of those three sites, two (Boston and Dallas) ran supplemental 12th grade programming for interested older students who were too advanced in their high school education to experience the full four-year program model. **Early enrollment data suggest the initiative is reaching students historically underrepresented in health science CTE programs.**

Gender

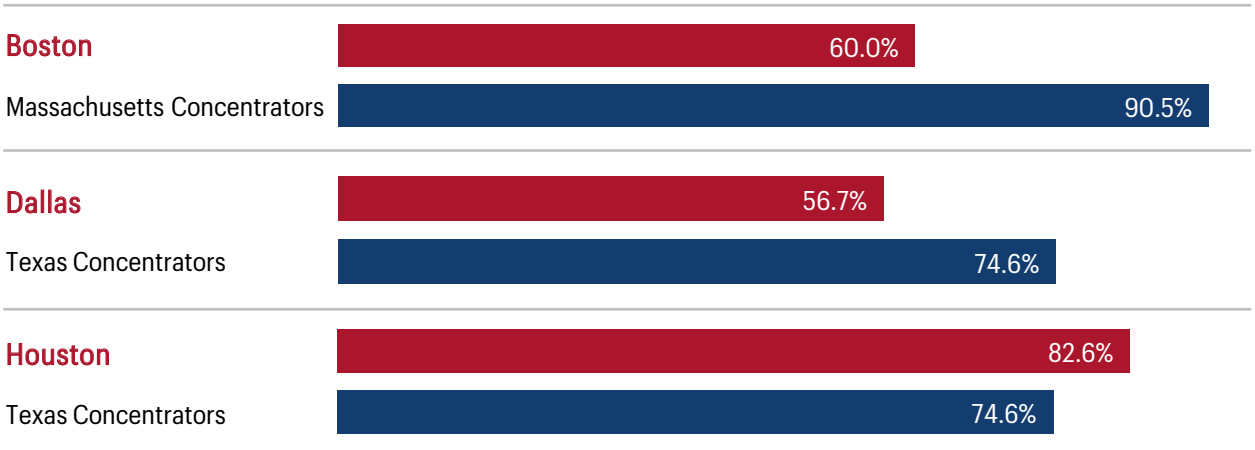
Across all reporting sites, the Class of 2028 student population was disproportionately female. In Houston, 82.6% of the Class of 2028 was female. In Boston, 60.0% of the Class of 2028 was female. In Dallas, 56.7% of the Class of 2028 was female.

As Figure 1. indicates, significant gender imbalance exists across the three sites. However, those disparities are generally consistent with, or better than, state data on CTE health science concentrators. As evidenced by Perkins V[11,12] state data on CTE concentrators in the health sciences[13], gender-based self-selection is a common feature among those seeking CTE training in health sciences with female students being overrepresented in this population of students.

Across Texas during the 2022-2023 academic year, 74.6% of Health Science CTE concentrators were female. At HEAL (Houston) the share of female students (82.6%) is greater than that typically found in the population of CTE Health Science concentrators in Texas. In contrast, at Uplift Heights (Dallas) gender imbalance was less extreme than typically seen in the population of Texas CTE Health Science concentrators (56.7%). Similarly, examining the same Perkins V data in Massachusetts, reveals that 90.5% of the state's Health Science CTE concentrators were female in 2022-23, whereas only 60% of the EMK Class of 2028 was female.

While gender imbalance was present in all sites, Boston and Dallas had more gender balance in their incoming cohort than would have been expected when compared to the state-specific population of CTE Health Science concentrators. While patterns consistent with historical

Figure 1: **Share of female students by site, Class of 2028**



Note: "State name Concentrators" is referring to the state's population of CTE Health Science Concentrators.

self-selection on the basis of gender in CTE health science concentrators are found in this initial data, the sites are engaged in targeted recruitment efforts to improve gender balance. As the program continues to mature, additional cohorts are added, and schools are launched, it will be interesting to observe if the current gender distributions remain stable.

Race and Ethnicity

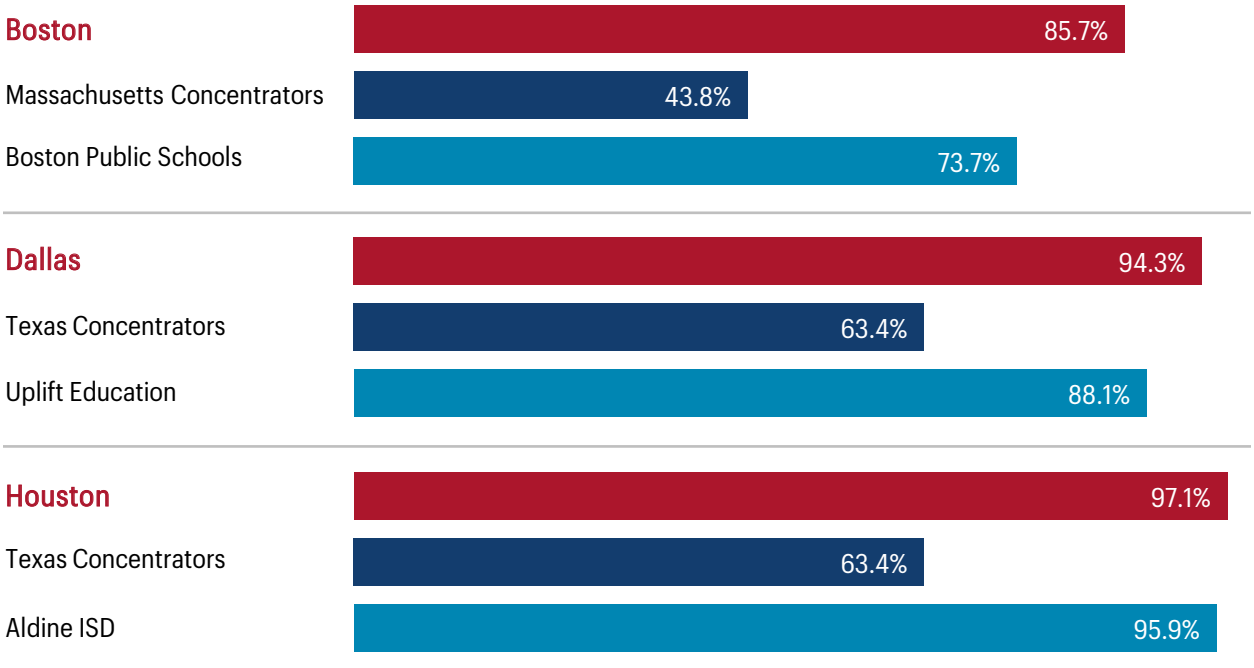
Across all three sites, students are overwhelmingly Black or Hispanic/Latino. Unlike the gender data, the proportion of Black or Hispanic/Latino students represents a materially greater share of enrollees than observed in Perkins V statewide data for CTE Health Science concentrators, but is consistent with the respective district racial and ethnic outlook.

While comparison to a state's CTE cohort can help illustrate important features of the data, like the observed gender imbalance, there are other features of the student population, like race, that are better compared to a more proximate data source. Each of the 2024-2025 launch sites is a large urban area that differs dramatically from the overall racial composition of the state in which it is located. Each city is home to a far greater proportion of Black and Hispanic/Latino students than the state as a whole.

Dallas and Houston

Among 2022-2023 CTE Health Science concentrators in Texas, roughly six out of every ten students were Black or Hispanic/Latino (63.4%). Both Dallas and Houston had a materially greater than share of Black or Hispanic/Latino students (94.3% in Dallas and 97.1% of Houston Class of 2028 students). However, as noted above, this statewide data also captures areas of the state that may be significantly whiter than large metropolitan areas. Consistent with this, the observed racial imbalance at Uplift Heights seems to largely vanish when the reference population used is Uplift Education[14] or the Dallas Independent School District (ISD). In the Uplift Education network, 88.1% of students

Figure 2: **Share of Black or Hispanic/Latino students by site, Class of 2028**



Note: "State name Concentrators" is referring to the state's population of CTE Health Science Concentrators.

during the 2023-2024 academic year were Black or Hispanic/Latino. Of the nearly 140,000[15] students in the Dallas ISD, 90.8% are Black or Hispanic/Latino[16] as compared with 94.3% of the Uplift Heights Class of 2028. Roughly 96% (95.9%) of Aldine ISD's[17] over 57,000 students[18] were Black or Hispanic/Latino which is comparable to HEAL's 97.1% of students being Black or Hispanic/Latino.

One limitation of using district-wide data as a point of comparison is that it blends high school students, the most natural comparison set, with younger students in the district. Though unlikely, to the extent that younger students differ from high school students in key demographic considerations, the inclusion of younger students could impact the validity of the comparison. While the Texas Education Agency does not produce district-wide racial data disaggregated by grade, it does report data on graduating seniors. When looking specifically at the graduates of Dallas ISD, 91.9% of graduates are Black or Hispanic/Latino. In the Aldine ISD[19], 96.4% of graduating seniors in the Class of 2024 were Black or Hispanic/Latino. In summary, based on point estimates alone, the rate of Black or Hispanic/Latino students in both Uplift Heights and HEAL is much greater than rate of Black or Hispanic/Latino students in statewide CTE Health Sciences programs, but only slightly higher than that of recent graduates from the district and their respective districts, writ large. This is solely based on point estimates and should be treated with caution, observed differences could be attributable to random variation and may not be evidence of a meaningful difference.

Boston

When considering the 2022-2023 population of CTE health sciences concentrators in Massachusetts, roughly four in ten (43.8%) were Black or Hispanic/Latino. In the EMK Class of 2028, 85.7% of students were Black or Hispanic/Latino, a materially larger proportion. However, when contrasted to the Boston Public Schools' 73.7% share of Black or Hispanic/Latino students during the 2024-2025 academic year[20], the observed racial imbalance in EMK's initial cohort persists, but is much smaller in magnitude. While the point estimate indicates that the freshman class at EMK may be more likely to be Black or Hispanic/Latino than the typical high school in Boston, this difference may be attributable to chance differences in the selection of this cohort.

Age

As expected, given that the reporting sites included only 9th and 12th grade students, the distribution of age across the sites was bimodal. Also as expected, for a given class, the distribution of age is unimodal. As the program matures and additional classes matriculate, it is likely that the bimodality currently observed will attenuate, but the unimodal nature of the class-specific age distribution is likely to persist.

Boston

In Boston, the overall distribution of age in EMK was bimodal, with 58.5% (n=83) of EMK students being age 15 and 19.0% (n=27) of students being age 18. This bimodality follows, mechanically, from the current stage of program implementation.

When considering the distribution of age by class, we see a unimodal distribution in each class, consistent with expectations. Of the 105 students in the Class of 2028, 83 (79.1%) were fifteen years old with another 15 (14.3%) being fourteen. For those in the 12th grade program, 73.0% (n=27) of students were age 18.

Dallas

Like Boston, Dallas elected to provide supplementary programming to 12th grade students who did not have the opportunity to engage in four years of programming. The distribution of age is again bimodal, but the second mode is less pronounced due to the proportionally fewer students in the 12th grade program in the Dallas site. However, when the data is stratified by class, we observe unimodal distributions in each class with 73.3% (n=115) of the Class of 2028 being fifteen and 77.0% (n=20) of the Class of 2025 being eighteen.

Houston

HEAL, being a net-new school, did not operate a supplemental program for 12th grade students. Instead, the school focused on programming for the entering 9th grade students in the Class of 2028. This is reflected in the age distribution of the students, with 69.6% (n=96) being age 15 and all students ranging from 14 to 16 years of age.

English Language Learners and Language Spoken at Home

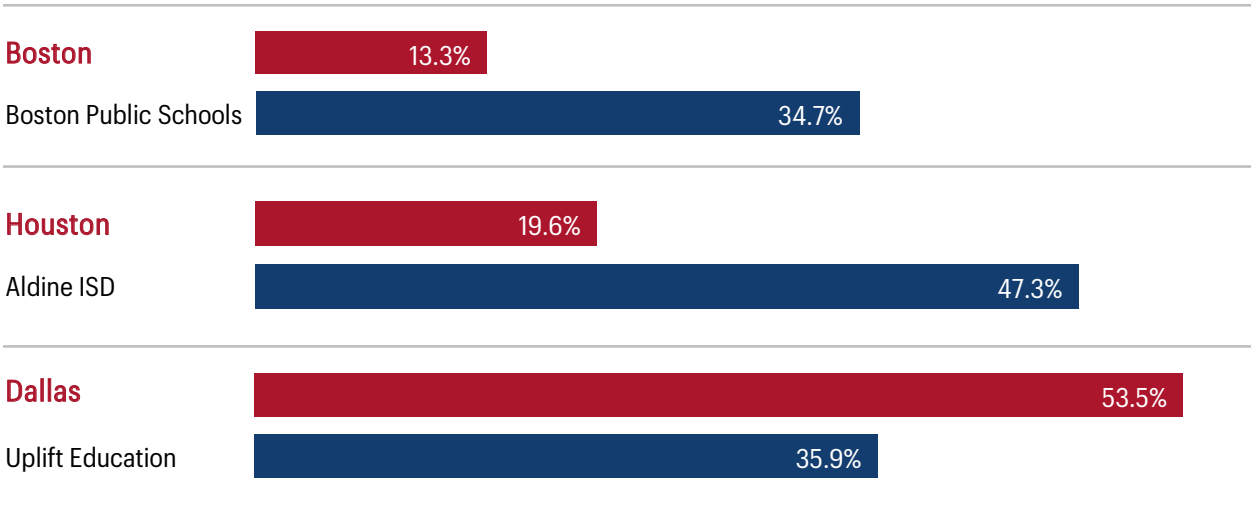
There is material variation across the sites with respect to the language spoken in the learner's home. Given their co-location in Texas and adjacency to large Spanish-speaking nations to the south, one might expect Dallas and Houston to be most similar in the rate of English language learners and students coming from a home where a language other than English is spoken. However, the data follow what might be an unexpected pattern, with Houston more similar to Boston in terms of rates of English language learners and the fraction of the student population that speaks English in the home. In the Class of 2028 cohort, Boston and Houston had comparable rates of English learners at 13.3% and 19.6%, respectively.

In the Boston Public Schools during the 2024-2025 academic year, 34.7% of students were English learners. In the Aldine ISD, 47.3% of students were English learners.[21] Thus, while the rates of English learners were comparable in Boston and Houston, both sites had a materially lower rates of English learners than their larger districts.

Dallas had over half (53.5%) of the Class of 2028 being English learners. During the 2023-2024 academic year, the Uplift network had an English learner rate of 35.9%, while the Dallas ISD had 50.8% of students classified as English learners. As such, the rate of English learners is higher in Uplift Heights than schools across the network and somewhat higher than a geographically similar district. In sum, the rate of English learners in Heights is higher than other similar districts, over four times the rate observed in Boston, and nearly three times that found in Houston.

Consistent with this observation, the language spoken in the student's home follows a similar pattern. The majority (63.1%) of Class of 2028 students in Dallas spoke a language other than English in the home. The rates in Houston and Boston are similar (45.7% and 46.7%, respectively) and materially lower than that observed in Dallas.

Figure 3: **English language learners rate by site, Class of 2028**



Special Education

The fraction of the Class of 2028 that was special education students[22] also vary considerably from a high of nearly 1 in 3 (30.5%) in Boston to less than 1 in 10 (8.9%) in Uplift Heights (Dallas). Houston's rate of special education learners in the Class of 2028 falls between these bookends, but the overall number of special education students is too small to permit meaningful analyses. For reference, 12.3%[23] of students across the Uplift education network were special education students and 23.1%[24] of students in Boston Public School were on an Individualized Education Program (IEP). Here again, significant caution should be used when interpreting these rates.

Career Pathways

One feature of the CTE healthcare high school model is its focus on career pathways to equip students with the requisite skills, knowledge, and credentials to enter the workforce in roles that provide family-sustaining wages. Sites select and define their own pathways, which are aligned with specific positions at the partner hospital.

Each site also determines when students decide among the available career pathways. Many schools have determined that the optimal decision point for the selection of a career pathway is sometime after the student's 9th-grade year. Houston, however, does ask its students to select a career pathway in the 9th-grade.

Houston—the only school with pathway selection in ninth grade–offers a preliminary picture of how students sort unevenly into healthcare pathways. Ninth-grade students choose one of five potential career pathways: Nursing, Business Administration, Pharmacy, Physical and Occupational Therapy, or Medical Imaging. The following describes select demographics for the Class of 2028 students across the pathways.

First, students are not sorting themselves uniformly across the five career pathways. The most popular pathway choice was Nursing, with 49 (35.5%) of students selecting the pathway. Three pathways – Pharmacy, Physical and Occupational Therapy, and Medical Imaging – are nearer to the 20% of students that would be expected if student preferences were uniform across the pathways. Physical and Occupational Therapy was the second most commonly chosen pathway (21.7% of the student population). Just over one in six students chose the Medical Imaging pathway (17.4% of the student population), with the second least commonly chosen pathway being Pharmacy (15.9% of the student population). The pathway with the smallest fraction of students was Business Administration, with 9.4% of students choosing that pathway.

In addition to an imbalance in the numbers of students across pathways, there also seem to be indications of interesting patterns in the selections made by students. First, there is some evidence that student choices may vary across gender. Recall that in Houston, 82.6% of the Class of 2028 students were female. However, female students account for 89.8% of Nursing pathway students, 92.3% of students on the Business Administration pathway, and 87.5% of students on the Medical Imaging pathway. Conversely, male students were overrepresented on the Pharmacy, and Physical and Occupational Therapy pathways (31.8% and 26.7% of students on the pathway were male, respectively).

Figure 4: **Number of students by pathway, Houston class of 2028**

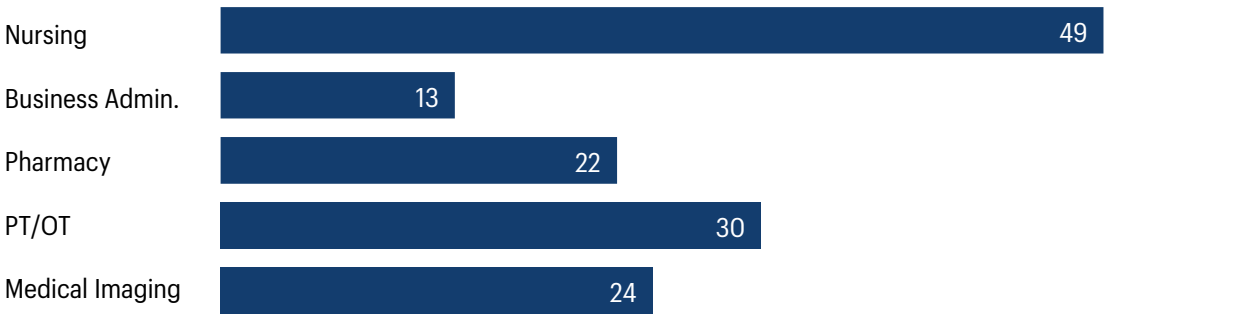


Table 1: **Select demographics by pathway, Houston class of 2028**

	Class of 2028	Nursing	Business Admin	Pharmacy	PT/OT	Medical Imaging
Number of Students	138	49	13	22	30	24
% of Class of 2028	100%	35.5%	9.4%	15.9%	21.7%	17.4%
Percentage of Pathway Students						
% Black	42.0%	34.6%	30.8%	**68.2%**	**53.3%**	25.0%
% Hispanic/Latino	55.1%	**63.3%**	**61.5%**	31.8%	43.3%	**70.8%**
% Female	82.6%	**89.8%**	**92.3%**	68.2%	73.3%	**87.5%**
% Only English Spoken at Home	54.3%	42.9%	**61.5%**	**77.3%**	**63.3%**	41.7%

Note: Bold indicates the point estimate for that measures on that pathway exceeds the cohort average.

There is also some tentative evidence that pathway selection varied by race. In the Houston Class of 2028, 55.1% of students were Hispanic/Latino. While constituting just over half the cohort, 70.8% of those on the Medical Imaging pathway were Hispanic/Latino, 63.3% of those on the Nursing pathway were Hispanic/Latino, and 61.5% of those on the Business Administration pathway were Hispanic/Latino. Put simply, Hispanic/Latino students were overrepresented on the Medical Imaging, Nursing, and Business Administration pathways.

While Hispanic/Latino students were overrepresented on three pathways, Black students were overrepresented on the remaining two pathways. Black students accounted for 42.0% of the Class of 2028 in HEAL but constituted 68.2% of the students on the Pharmacy pathway and 53.3% of students on the Physical and Occupational Therapy pathway.

Also of note is the relationship between the language spoken in the student's home and the student's pathway decision. In the HEAL Class of 2028, 54.3% of students spoke only English in their home (and so, mechanically, 45.7% of the class spoke a language other than English in their home). However, of those on the Pharmacy pathway, 77.3% spoke only English at home. Though less stark, those with only English spoken in the home were also overrepresented on the Business Administration pathways (61.5% spoke only English in the home) and Physical and Occupational Therapy pathways (63.3% spoke only English at home).

Leading Student Success Indicators

In addition to demographic data, sites also reported student performance on a set of leading indicators. As developed below, these leading indicators have been found to be predictive of later student success. Early monitoring of these leading indicators provides not only early insights into site performance but also helps identify areas for targeted improvement.

Attendance and Chronic Absenteeism

Existing literature supports a connection between student attendance and later success. Absence from school has been linked to decreased student exam performance, decreased probability of graduation, and decreased probability of enrolling in postsecondary education.[25]

Notably, there exists some evidence that absences in the freshman year can be used to predict whether a student will later graduate from high school.[26] Attendance is also a measure that is routinely collected and offers the potential for relatively low-cost intervention opportunities to schools.[27]

As developed below, while Houston and Dallas show attendance and chronic absenteeism rates that are generally comparable to or better than their districts, Boston exhibits particularly high chronic absenteeism among 12th graders in the accelerated CNA and EMT programs, meriting further attention.

Although significant caution should be used in interpreting this early finding, some demographic characteristics also appear to be associated with attendance and chronic absenteeism. Female students have higher rates of chronic absenteeism than male students at all three sites. Special education students also show notably higher rates of chronic absenteeism, where data permit analysis. Should these findings continue to hold in future work, this may be a signal for the consideration of tailored additional supports.

Houston and Dallas

The attendance rate for the Class of 2028 in HEAL was 93.2%, and the chronic absenteeism rate[28] was 19.6%. These attendance and chronic absenteeism rates compare favorably to the 90.1% attendance rate and 34.8% chronic absenteeism rate in the Aldine ISD during the 2022-2023 academic year.[29] At Uplift Heights, the attendance rate for the Class of 2028 was 91.8% with a chronic absenteeism rate of 24.2%. This attendance rate is slightly below the 93.1% attendance rate across Uplift schools and the 92.4% attendance rate in the Dallas ISD in 2022-2023. The Heights chronic absenteeism rate was slightly higher than that observed across Uplift schools (21.6%) and in the Dallas ISD (23.8%).[30]

For the 14 students with an Individualized Education Program (IEP) or a 504 plan in Uplift Heights Class of 2028, the attendance rate was somewhat lower at 87.3%, but the chronic absenteeism rate for these students nearly doubled to 42.9%. While the number of students in this stratum is small, the rate of chronic absenteeism for this subpopulation is materially different than that seen typically across the whole cohort at Uplift Heights. Although the small number of special education students in HEAL also precludes in-depth discussion of the attendance and chronic absenteeism rate, the data also point to a similar concern around attendance for those in the special education population. To the extent that this feature found in both the HEAL and Uplift data is stable in subsequent reporting, attention is warranted. Students on an IEP or 504 plan often face meaningful challenges to fully access educational curricula and require personalized support. Given the risks associated with poor attendance and these students' need for heightened educational support, maximizing attendance is of particular importance for this subpopulation.

Figure 5: **Attendance rates by site, Class of 2028**

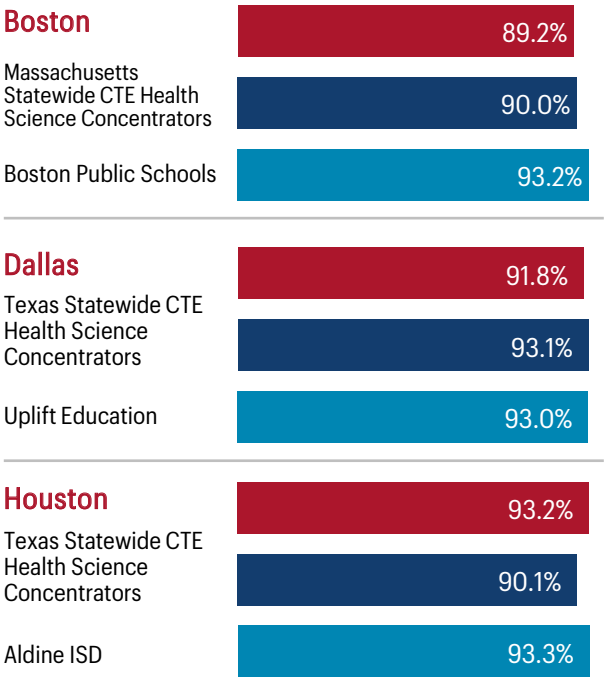
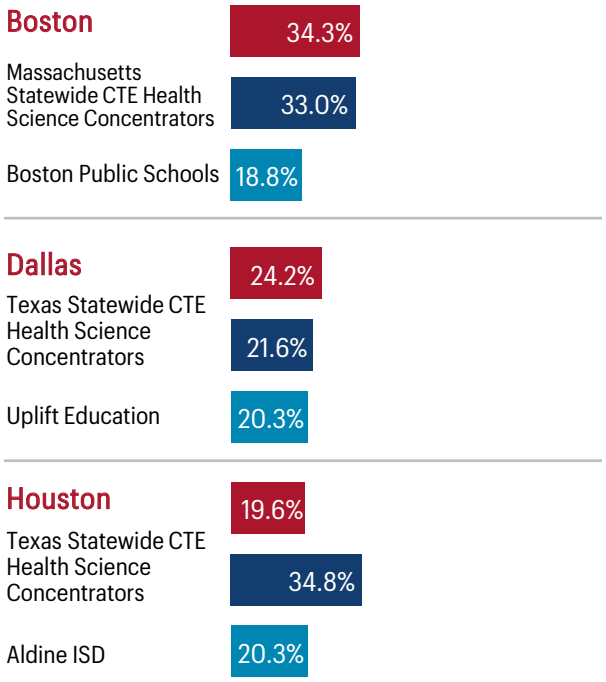


Figure 6: **Chronic absenteeism rates by site, Class of 2028**



Boston

In Boston, the overall attendance rate was 88.3%. There was only a relatively minor difference in the attendance rate of the 9th-grade students (89.2%) and that observed for 12th -grade students (85.8%).[31] However, there was a large difference in the rate of chronic absenteeism between the 9th-grade and 12th-grade cohorts. The chronic absenteeism rate was 34.3% for the Class of 2028 and 73.2% for the Class of 2025. In comparison, the rate of chronic absenteeism in the Boston Public Schools was 33% for the 2024-2025 academic year. Put differently, **nearly three-quarters of the 12th -grade students participating in the CNA or EMT pathways were absent 10% of school days or more, a rate more than double that observed across the Boston Public Schools.**[32] If this trend holds in future data, significant intervention may be warranted.

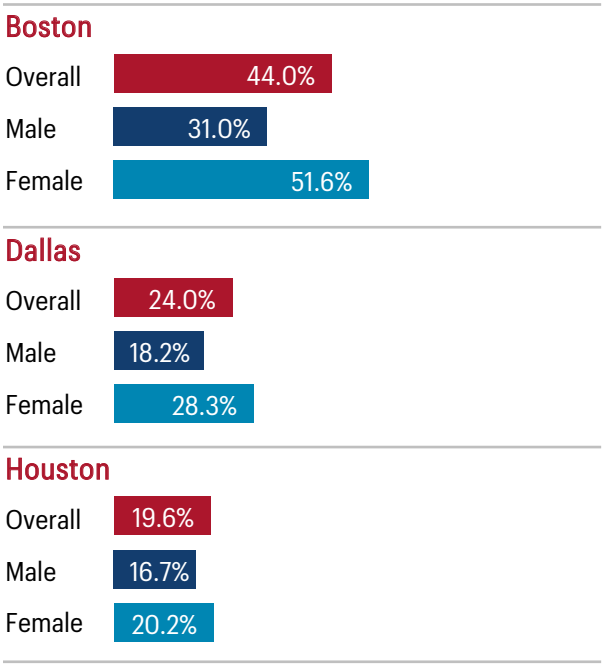
Chronic Absenteeism Varies by Gender

Houston and Dallas

Rates of chronic absenteeism were higher for female students than for male students. Based solely on the very initial data analyzed here, this result holds across all three sites. In Uplift Heights, the overall chronic absenteeism rate was 24.0%, meaning that nearly one out of four students missed 10% of school days or more. When we restrict our attention to male students, the chronic absenteeism rate falls to 18.2%. However, when our attention is restricted to female students, the chronic absenteeism rate climbs to 28.3%. Put differently, in Heights during the last half of the 2024-2025 academic year, the female rate of chronic absenteeism was 55.5 percent greater than that seen in the male student population.

In Houston, the overall rate of chronic absenteeism was nearly one in five (19.6%). However, when the student population is stratified by gender, the chronic absenteeism rate for male students was 16.7%. The rate for female students was 20.2%, a 21 percent increase from the male rate.

Figure 7: **Chronic absenteeism rate by site and gender**



Boston

A similar pattern can be found in the Boston data. At EMK, the overall chronic absenteeism rate was 44.4%. However, this masks a material difference between male and female students. The chronic absenteeism rate at EMK was 31.0% for male students and 51.6% for female students. As such, the rate of chronic absenteeism was 66.5 percent higher among female students than among male students, with the majority of female students missing at least 10% of school days.

Although potentially worrisome, there is initial evidence that this observed difference in chronic absenteeism in Boston across gender may be driven, at least in part, by cohort effects. When considering only the Class of 2028, chronic absenteeism rates fall to 29% and 38% for male students and female students, respectively. While still a ten percentage point difference, this represents a significant closing of the gender gap. Even so, the disparities in absenteeism rates merit further attention and may signal the need for additional supports for female students.

Grade Point Average

There is substantial variation in grade point averages[33] (GPAs) across the sites. High school grade point average is a well-studied leading indicator of high school graduation, postsecondary educational success, and later labor market returns. Specifically, the higher a student's high school GPA (particularly GPA as a freshman), the higher the probability of graduating high school[34], enrolling in postsecondary education[35], postsecondary retention[36], and generating greater labor market returns.[37]

Across the Class of 2028 and Class of 2025 cohorts, the average GPA in both Houston and Dallas was 3.02, whereas the average GPA in Charlotte was 2.92 and 2.23 in Boston.[38] Although the typical GPA in Boston is materially lower than the GPA in Houston or Dallas, the reason for this observed difference remains unclear. The observed differences in GPA could be reflective of programmatic quality, student academic preparation entering high school, student engagement, variation in grading practices, difficulty of coursework, or many other factors. Put simply, meaningful differences exist across schools, thereby complicating cross-school comparisons of GPA. However, there will be opportunity to leverage future reported data to understand within-school variation in GPA as additional cohorts are brought into the schools, pathways are built, and students choose their pathway.

Postsecondary Credit Attainment and Work-based Learning (WBL)

Work-based learning while in high school is emerging as a core component of today's CTE pathways. WBL provides an important opportunity for students to explore career options, assess their interest and fit with a particular career path, build skills in a career path, and jump-start the creation of career networks. Indeed, there exists evidence of the positive impact of work-based learning on future student outcomes.[39] In the presently discussed model, sites are expected to engage students in both unpaid and paid WBL. As envisioned, early high school students would engage in *unpaid* WBL learning activities that center on career exposure and exploration opportunities. As students' age and build familiarity with healthcare career options, WBL will transition to *paid* opportunities in their chosen healthcare pathways.

Another core component of modern CTE education is the opportunity to earn postsecondary credit while in high school. Postsecondary credit attainment offers enhanced educational rigor and a potential competitive advantage during the college application process, should the student decide to pursue additional postsecondary credentials. Importantly, completion of postsecondary credits in high school also provides downward pressure on the cost of pursuing additional postsecondary credentials, a significant benefit for low-income students.

Typically, opportunities for *paid* WBL and postsecondary credit are offered to students in the later grades due to constraints like hospital employment age restrictions and academic preparedness requirements. Most students participating in the initiative to date were in 9th grade, limiting their ability to engage with college-level content or participate in certain types of WBL. **The differences across sites in postsecondary credit attainment and work-based learning observed in this early data are likely attributable to variations in model design and do not necessarily reflect programmatic success or challenge.**

Table 2: **Work-based learning and postsecondary attainment by site and class**

	Boston		Dallas		Houston	Charlotte
	Class of 2028	Class of 2025	Class of 2028	Class of 2025	Class of 2028	Class of 2028
Unpaid WBL						
% in Unpaid WBL	9.5%	45.9%	100%	100%	99.3.%	100%
Average Duration of *Unpaid* WBL*	66	25	40	65	23. 5	12
Paid WBL						
% in Paid WBL	0%	21.6%	0%	0%	0%	0%
Average Duration of *Paid* WBL*	0	66	0	0	0	0
Postsecondary Credit						
% of Cohort Attempting Postsecondary Credit	0%	27%	0%	100%	13.8%	100%
% of Those that Attempted that Earned Credit	0%	60%	0%	57.7%	100%	100%
Total Number of Credits Earned	0	42	0	48	19	207

*Among those who participated in WBL. Measured in hours.
Note: Charlotte Class of 2025 not shown due to lack of WBL or postsecondary credit opportunities.

Postsecondary Credit Attainment

Postsecondary credit attainment is emerging but not universal. Houston and Charlotte have enabled 9th graders to earn college credits; Dallas and Boston focused on seniors in transitional programs. Where attempted, most students were successful in earning credit.

With respect to the Class of 2028, both Houston and Charlotte students received postsecondary credits. In Houston, 13.8% of the Class of 2028 earned postsecondary credits, with each of the 19 students earning one postsecondary credit. In Charlotte, all 69 students in the Class of 2028 attempted and earned three postsecondary credits. Dallas and Boston did not provide post-secondary credit opportunities to their 9th-grade students, as is more typical in high school CTE programs.

Twelfth-grade students in Dallas and Boston attempted and attained postsecondary credits, while no 12th-grade students in Charlotte attempted postsecondary credit. In Dallas, all 12th-grade students attempted to earn postsec-ondary credits, with 57.7% of students successful in their efforts, earning a total of 48 postsecondary credits. In Boston, no 12th-grade students on the CNA pathway attempted postsecondary credits, but all 17 students attempted and earned their CNA certification. For the EMK students in the Class of 2025 on the EMT pathway, half (n=10) attempted to earn postsecondary credit, with six of the students successfully earning a total of 42 post-secondary credits.

Work-Based Learning Participation

Work-based learning participation is high in some sites and modest in others. Dallas and Houston offer near-universal unpaid WBL for 9th graders with substantial hours. Charlotte provides shorter experiences for all students. Boston engages a smaller share of 9th graders but is the only site to offer paid WBL for seniors.

All sites had 9th-grade students participating in unpaid work-based learning,[40] **but the number of participating students and the number of hours varied greatly.**[41] In Dallas, all Class of 2028 students engaged in 40 hours of unpaid work-based learning. In Boston, 9.5% (n=10) of the Class of 2028 participated in work-based learning, with each participating student engaging in 66 hours of unpaid work-based learning. In Houston, nearly every freshman student (99.3%) participated in unpaid WBL, with students receiving an average of 23.46 hours. In Charlotte, all 69 students in the Class of 2028 received 12 hours of unpaid work-based learning.

Dallas and Boston also had 12th-graders in the supplemental program participating in work-based learning, with Boston engaging students in paid opportunities. In Boston, eight (21.6%) 12th-grade students engaged in paid work-based learning, with each participating student receiv-ing 66 hours of paid work-based learning, while another 17 (45.9%) students engaged in 25 hours of unpaid work-based learning. In Dallas, all 26 seniors received 65 hours of unpaid work-based learning.

Conclusion

The preceding is a first analysis of very initial aggregate data returns from the first four CTE healthcare high schools launched in the 2024–2025 academic year. These initial data find the sites at the very earliest stages of implementation with their first student cohorts. Given the program's relatively early stage, the findings contained herein should be viewed as tentative, directional, and potentially indicative. One of the goals of regular site data reporting is to permit sites an opportunity to identify, track, and, if necessary, remediate patterns in the data that are inconsistent with the site's goals.

While the findings are preliminary, there are encouraging takeaways as well as early signs that present an opportunity for refinement and improvement.

1. **Cohorts are overwhelmingly Black and Hispanic/Latino.** Black and Latino students accounted for at least 85.7% of students in the Boston, Houston, and Dallas cohorts. While overwhelmingly Black and Hispanic/Latino, the observed racial imbalance is similar to that found in other local schools. Based on these initial returns, it seems that sites are effectively generating cohorts that are racially representative of the community and constituted primarily of historically underserved populations.

2. **Cohorts are disproportionately female.** The observed gender imbalance in two of three sites was less than that typically found in statewide data. However, gender imbalance existed in all sites. While gender-imbalanced cohorts are typical in healthcare-oriented careers, and sites seem to have more balanced cohorts than those seen statewide in CTE Health Science concentrators, the initial data indicates that there may be an opportunity for sites to further enhance gender balance in the cohorts.

3. **Chronic absenteeism patterns merit continued attention.** The attendance and chronic absenteeism rates observed in Boston, Dallas, and Houston were similar to those of other local schools. However, rates of chronic absenteeism vary materially and consistently across genders, with female students having a uniformly higher rate of chronic absenteeism. While it is unclear what is driving this finding, and there is some evidence of a cohort effect, to the extent that this finding is found again in future data submissions, this disparity may require concerted effort to resolve.

4. **At the one site where students have elected a career pathway, Houston, there is evidence of non-uniform sorting of students into pathways.** Some pathways engender greater student interest and have a greater number of students enrolled. There is some tentative evidence of student pathway selection varying by race, gender, and language spoken in the home. While most sites remain months or years away from pathway selection, this early data indicates that sites should carefully consider student pathway preferences in their design.

5. **All sites had students involved in unpaid WBL, but the number of hours of WBL varied materially across sites.** Variation across sites in the number of unpaid WBL hours is reflective of variation in model design and the stage of program maturity. WBL, both paid and unpaid, is an essential element of the models in all proposed sites. As sites continue to mature and as students age into increased opportunities for unpaid and paid WBL, it will be key to measure rates of WBL and highlight areas where WBL participation could be enhanced.

There is significant heterogeneity across the sites in model structure, location, demographics, nature of the community, postsecondary opportunities, and labor market landscapes,

among other features. The variation allows sites the flexibility to respond to their local labor market demands, healthcare partner needs, student aspirations, and partnership capacity constraints. While beneficial to overall programmatic goals, the heterogeneity across sites increases the challenge in cross-site comparisons. As the number of active sites grows, models mature, the number of cohorts increases, and the pathway opportunities expand, the ability to isolate meaningful signals in aggregate data will become broader but more challenging. As the initiative moves forward, nuanced efforts to disentangle signal from noise will require the use of statistical control and individual-level data to make robust conclusions on the impact of the effort in the 12 sites.

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Notes

1 The initial ten sites were Boston, New York City, Philadelphia, Charlotte, Durham, Northeast Tennessee, Nashville, Houston, Dallas, and Demopolis, Alabama. The initiative expanded to include Atlanta and St. Louis in 2025.

2 It is anticipated that future analyses will utilize the heterogeneity in site design to understand the features of site structure associated with positive student outcomes and return on investment.

3 Unfortunately, stemming from the site's complications with data sharing, little data was supplied by the Charlotte site. Where the data supplied by Charlotte is sufficient to inform analysis, it is included in this report.

4 The St. Louis site was not asked to submit data for this initial round of analysis because it joined the initiative during the summer of 2025.

5 Houston is the only new school model considered in this report.

6 Boston, Charlotte, and Dallas are refreshed schools.

7 Due to the timing of the launch of Uplift Grand, no data was provided. All Dallas data reflects Uplift Heights.

8 See Lasiter (2025) for an expanded discussion of the relationship between the Charlotte site and that in Cabarrus County.

9 Ibid

10 North Carolina Department of Public Instruction. Cooperative Innovative High Schools Retrieved from https://www.dpi.nc.gov/students-families/enhanced-opportunities/advanced-learning-and-gifted-education/cooperative-innovative-high-schools

11 U.S. Department of Education, Officed of Career, Technical, and Adult Education. *Perkins Collaborative Resource Network, Perkins V Enrollment Data*. Retrieved from https://cte.ed.gov/pcrn/explorer/enrollment/perkins-v

12 The Perkins V data used here is from the 2022-2023 academic year. This data is the latest available Perkins V data and the best available to benchmark to describe statewide patterns in CTE Health Science concentrators.

13 A health science concentrator under Perkins V is a student who meets the federal CTE concentrator definition by completing at least two courses in a single state-approved health science CTE program of study. The students enrolled in one of the healthcare high schools will have significantly greater exposure to health care careers and education than many Perkins CTE health science concentrators. The set of pathways available to students in the healthcare high schools may also differ from the approved programs of study that qualify under Perkins V. For example, dental assisting is an approved program of study in some states, but none of the healthcare high schools offer a dental assisting pathway.

14 Uplift Heights is a part of Uplift Education

15 As measured by Enrollment in the 2023-2024 academic year

16 Texas Education Agency. *2023-2024 Texas Academic Performance Report - Dallas ISD*

17 HEAL is a part of the Aldine ISD

18 As measured by Enrollment in the 2023-2024 academic year

19 Texas Education Agency. *2023-2024 Texas Academic Performance Report – Aldine ISD*

20 Massachusetts Department of Elementary and Secondary Education. *2024-2025 School and District Profiles – Boston*. Accessed at https://profiles.doe.mass.edu/general/general.aspx?topNavID=1&leftNavId=100&orgcode=00350000&orgtypecode=5

21 Based on 2023-2024 academic year for students classified as EB/EL students.

22 Special education is defined as students who were had either an Individualized Education Program (IEP) or a Section 504 plan

23 This rate uses a numerator the sum of the counts of membership in the Texas Academic Progress Report

categories “Section 504 Students” and “Special Education” for Uplift Education during the 2023-2024 academic year.

24 Based on the 2024-2025 Massachusetts Department of Education School and District Profiles for Boston Public Schools, see footnote 20 above. Unfortunately, the profiles published by the Massachusetts Department of Education only capture students on an IEP and do not capture student on a 504 plan.

25 See, for example, Keppens (2023); Ansari, Hofken, Pianta (2020); or Liu, Lee, Gershenson (2021).

26 Allensworth and Easton (2007)

27 For example, schools can directly engage with families to increase attendance, or incentives could be offered to students for improved attendance.

28 Where chronic absenteeism is defined as missing 10% of more days of school

29 Texas Education Agency. *2023-2024 Texas Academic Performance Report – Aldine ISD*

30 As a point of reference, for the state of Texas, the attendance rate for the 2022-2023 academic year was 93.3% with a chronic absenteeism rate of 20.3%. See, Texas Education Agency. *2023-2024 Texas Academic Performance Report – State*.

31 Boston Public Schools had an overall attendance rate of 90% during the 2024-2025 academic year.

32 Massachusetts Department of Elementary and Secondary Education. *2024-2025 School and District Profiles – Boston*. Accessed at https://profiles.doe.mass.edu/profiles/student.aspx?orgcode=00350000&orgtypecode=5&leftNavId=16817&

33 Unweighted on a 4.0 scale

34 For example, Easton, Johnson, Sartain (2017) or Allensworth & Easton (2007)

35 Easton, Johnson, Sartain (2017)

36 Ibid.

37 French, Homer, Popovici & Robins (2014)

38 GPA was one of the few data elements supplied by Charlotte that permitted analysis

39 In the context of career academies/P-tech see for example Rosen et al. (2023) and Kemple (2008)

40 The term ‘‘work-based learning’’ means sustained interactions with industry or community professionals in real workplace settings, to the extent practicable, or simulated environments at an educational institution that foster in-depth, firsthand engagement with the tasks required in a given career field, that are aligned to curriculum and instruction. The early work-based learning activities engaged in by Class of 2028 sites was most commonly opportunities for job exposure and exploration.

41 Discussions with some sites indicate this data may suffer from measurement issues. Some sites found tracking the number of WBL learning hours a logistical struggle and report the intended number of hours rather than the realized number of hours.