

Connecticut Statewide Healthcare Industry Pathways Project (CT SHIP)

FINAL EVALUATION REPORT

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CT SHIP Project Team:

Jemiel Rose
Project Director
hjemiel.rose@ctstate.edu

Renee Dunbar
Grant Project Assistant & Micro-Credential Coordinator
renee.dunbar@ctstate.edu

Rochelle Felix
Healthcare Career Advisor
RFelix@ncc.commnet.edu



Higher Education Insight Team:

Tashera Gale
Senior Director
tashera@higheredinsight.com

Donté McGuire
Managing Director
donte@higheredinsight.com

Elexus Robinson
Research Associate
elexus@higheredinsight.com

John Archacki
Research Associate
john@higheredinsight.com



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Executive Summary

The Connecticut Statewide Healthcare Industry Pathways Project (CT SHIP or the project) is a consortium project designed to leverage strategic, coordinated partnerships between three key groups: institutions of higher education (IHE), workforce development entities, and employers. The majority of partners are IHEs. The Connecticut State Colleges & Universities (CSCU) Systems Office is the state-level coordinating entity. On July 1, 2023, all 12 Connecticut community colleges merged into one IHE—CT State Community College. Norwalk Community College (NCC) serves as the lead institution for the project. The following campuses are the remaining IHEs apart of the consortium: Gateway Community College (GCC), Housatonic Community College (HCC), Middlesex Community College (MCC), and Tunxis Community College (TCC).

The organizational structures section discusses workforce development and employer partners in more detail.

The partnerships are guided towards the following goals, which are collectively intended to build up regional healthcare talent pipelines and meet the needs of both job seekers and employers:

1. strengthen the consortium colleges' capacity to offer demand-driven, accelerated training in healthcare career pathways leading to advancement and increased earning opportunities
2. expand the colleges' virtual instructional delivery capabilities
3. respond to employment and training needs created by the COVID-19 crisis to enable participants to quickly transition from unemployment to employment
4. build on existing and planned regional healthcare sector partnerships
5. increase alignment with Connecticut's public workforce system

The project period began February 1, 2021 and will officially end on January 31, 2025. The project operates on a February through January annual cycle.

Evaluation Goals and Approach

Higher Ed Insight (HEI) has served as the external program evaluator. HEI conducted a concurrent, triangulation mixed-methods evaluation to assess the fidelity of CT SHIP implementation; efficacy of capacity-building strategies; and realization of targeted student, institutional, and workforce outcomes. Data sources and collection methods included a student questionnaire, review of program documents and extant data, a survey for program leads, and interviews with project staff and other key informants. The data was analyzed separately and then compared, contrasted, and ultimately interpreted in light of the research questions. This methodology included conducting content analysis of program documents, descriptive statistics of all quantitative data (disaggregating where appropriate), and applying an emergent scheme to guide analysis of all interview data. All data was triangulated to identify consistencies and discrepancies of ideas across stakeholder groups and information sources.

The evaluation consisted of two major components: examination of the process (implementation) and assessment of impact (outcomes). Specifically, the external evaluation will serve to examine the following:

- fidelity of CT SHIP implementation
- efficacy of capacity-building strategies
- realization of student, institutional, and workforce outcomes

HEI conducted a comprehensive evaluation guided by the following research questions, which align with the project's logic model:

1. To what extent did CT SHIP complete grant activities as outlined in the project work plan?
2. To what extent do CT SHIP capacity-building strategies result in increased credential attainment, employment placement and advancement, sector partnership formation, and workforce alignment?
3. To what extent has CT SHIP strengthened the capacity of consortium colleges to provide demand-driven, accelerated training in healthcare career pathways?

Summary of the evaluation methods

HEI evaluators followed U.S. Health and Human Services guidelines for ethical treatment of study participants, with team members certified in human subjects protection. Data were collected via student questionnaires, program documents, extant data, program lead survey, and key informant interviews.

Document Review Framework

A review framework, aligned with the project work plan, was created to ensure activity alignment. HEI collected digital and physical artifacts on activities (e.g., employer engagement, sector partnerships, instructional improvements), program materials (e.g., training modules, assessment tools), and outputs. Annually, a document request table guided program staff in tracking documents throughout the year.

Staff and Stakeholder Interviews

HEI conducted annual interviews with CT SHIP staff and stakeholders, assessing progress in training, curriculum updates, virtual delivery, employer engagement, partnerships, and workforce alignment. Interviews addressed successes, challenges, preliminary outcomes, and sustainability potential. HEI and CSCU identified key informants and tailored semi-structured interview protocols for each group. Consent was obtained to record interviews, which were transcribed for analysis.

Student Questionnaire

A student questionnaire, reviewed by the CT SHIP Program Director, gathered insights into program experiences, training impact, and barriers to success. It also tracked outcomes such as workforce readiness and credential attainment. The questionnaire was administered annually on Survey Monkey.

Program Lead Survey

To gather insights from the Program Leads, a Zoom survey was conducted immediately following each Program Lead interview or focus group during the final year of evaluation. This survey included nine questions designed to capture perceptions on critical aspects of the CT SHIP program, such as overall program quality, student workforce readiness, and employer satisfaction.

Extant Data Review

HEI reviewed outcomes data, such as enrollment, retention, digital badging, credential attainment, and employment metrics, to gauge the achievement of CT SHIP goals.

Sampling

A multi-level sampling strategy was used, targeting institutions, pathways, programs, and stakeholders. Interviews were conducted with the Program Leads across the five participating consortium colleges; they were chosen for insights on grant implementation. All CT SHIP participants were also invited to complete the questionnaire, with documentation collected across consortium institutions to track program impact.

Recruitment and Engagement Strategies

Recruitment strategies considered participant needs, collection methods, and potential incentives. HEI acknowledged that participation, especially among students, could vary due to interest, availability, and resource constraints. Non-response bias in surveys was mitigated by comparing participant data with enrollment figures and tailoring strategies to engage underrepresented groups.

Data Analysis

HEI employed a concurrent triangulation mixed methods approach, analyzing quantitative and qualitative data separately and then integrating the results. Document analysis assessed progress toward goals, while quantitative data were analyzed for patterns by demographics and institution. Qualitative data from interviews were coded and categorized using Dedoose software, with findings iteratively refined. Triangulated data were compared to identify effective program elements and areas for improvement, reducing biases from singular data sources.

Findings

The CT SHIP initiative has made significant progress in addressing workforce development challenges in healthcare through evidence-based strategies, including demand-driven, sector-based training, accelerated learning programs, and stackable credential initiatives. By the grant's conclusion, CT SHIP enrolled 2,612 students (exceeding its target of 2,200) and

established four regional healthcare sector partnerships (surpassing the original goal of three). These partnerships, supported by stakeholders such as the Governor's Workforce Council (GWC) and NextGen Sector Partnerships, have aligned training programs with evolving workforce demands and fostered collaboration between employers, workforce boards, and consortium colleges.

CT SHIP's instructional delivery enhancements have had a significant impact on career pathway programs. Accelerated training models, initially piloted in Certified Nursing Assistant (CNA) programs, have been reduced from 14 weeks to as few as 8 weeks, allowing students to quickly transition into the healthcare workforce. This initiative has enabled consortium colleges to expend their capacities significantly, as can be seen in these examples:

- **Gateway Community College (GCC)** added Medical Billing and Coding (MBC) and Medical Office Assistant (MOA) programs in 2024, addressing regional demand for administrative healthcare roles.
- **Middlesex Community College (MCC)** introduced six programs, including HIM Data Management and a Clinical Coding Certificate, to meet healthcare technology needs.
- **Housatonic Community College (HCC)** enhanced its Central Sterile Processing program by incorporating employer feedback into its curriculum.
- A **Patient Care Technician (PCT) apprenticeship** program, launched for a single deployment in 2023, provided valuable hands-on training.

Additionally, CT SHIP invested in its infrastructure for expanding programs by securing hospital beds, mannequins, and digital tools for training. Digital literacy assessments and training resources were developed to ensure students acquired essential technological and computer skills, such as proficiency in Microsoft Excel and skills in troubleshooting and cybersecurity awareness among others.

Employer engagement played a pivotal role in CT SHIP's success, with 58 employers (ranging from community health centers to large regional hospitals) actively participating. These partnerships informed curriculum updates and micro-credential developments, provided work-based learning (WBL) opportunities, and facilitated direct hiring pathways. For example, students participated in externships, non-state-mandated clinical hours, and job shadowing experiences that often led to employment offers. Employers expressed high levels of satisfaction with CT SHIP graduates, citing their readiness for roles such as Certified Nursing Assistants (CNAs) and Central Sterile Processing Technicians (CSPT).

Despite these successes, challenges arose, such as competing priorities with state-funded programs like Career ConneCT, conflicts that limited collaboration between workforce boards and consortium colleges. Variability in students' digital literacy and limited access to technology, especially for those relying on mobile devices, also posed barriers. To address these challenges, CT SHIP provided essential supports in the form of loaner laptops, food pantries, transportation services, and personalized case management. These efforts ensured that students from low-income backgrounds could access and succeed in healthcare training programs.

Another value to this program was CT SHIP's stackable credentials and digital badging initiative. The Patient-Centered Communicator (PCC) micro-credential was successfully piloted, and additional badges focusing on Diversity, Ethics, and Cultural Awareness were developed. All 10 micro-credentials have been completed. Partnerships with employers and institutions such as Yale University have enhanced relevance of these credentials, which provide students with industry-recognized qualifications and improve their employability.

Looking ahead, CT SHIP has laid a strong foundation for its scalability and sustainability plans. The program's infrastructure investments, accelerated training models, and partnerships ensure that the consortium colleges can continue to meet local workforce needs. Digital literacy resources and the micro-credential framework will remain accessible, while ongoing employer engagement and sector partnerships will support curriculum relevance and job placement efforts. For example, Gateway has expressed interest in expanding to additional healthcare pathways, such as dental assistant training. Additionally, CT SHIP's sustainability plan recommends maintaining critical roles, like a micro-credential coordinator to ensure program quality and continuity.

Overall, CT SHIP has transformed healthcare workforce development across the state, exceeding many of its grant expectations while also addressing barriers to student success. By creating scalable, sustainable training programs, the initiative has positioned consortium colleges to deliver high-quality, demand-driven education that meets the state's evolving healthcare needs.

Introduction

This report represents a summative evaluation conducted by Higher Ed Insight (HEI) of the Connecticut Statewide Healthcare Industry Pathways Project (CT SHIP or the project). The evaluation aims to inform program implementation, evaluate student outcomes, assess institutional capacity building, and identify successful strategies to scale across the CT State Community College system.

The evaluation consists of two major components: an examination of the process (implementation) and assessment of impact (outcomes). Specifically, the external evaluation examines the following:

- fidelity of CT SHIP implementation
- efficacy of capacity-building strategies
- realization of student, institutional, and workforce outcomes

The evaluation was guided by the following evaluation questions:

1. To what extent did CT SHIP complete grant activities as outlined in the project work plan?
2. To what extent do CT SHIP capacity-building strategies result in increased credential attainment, employment placement and advancement, sector partnership formation, and workforce alignment?
3. To what extent has CT SHIP strengthened the capacity of consortium colleges to provide demand-driven, accelerated training in healthcare career pathways?

HEI conducted a concurrent, triangulation mixed-methods evaluation to address the evaluation questions. Data sources and collection methods included ongoing review of program documents and extant data throughout the program years as well as key stakeholder interviews conducted annually.

The project period began February 1, 2021 and will officially end on January 31, 2025. The project operates on a February through January annual cycle.

Project Overview

The purpose of this section is to provide additional details regarding the project's organizational structures and implementation activities.

Implementation Activities

The project's original theory of change/logic model identifies seven evidence-based strategies incorporated into CT SHIP's design, strategies that guide implementation of activities (see Appendix A). HEI developed an updated program logic model to supplement the theory of change/logic model by documenting specific activities associated with the evidence-based strategies detailed in the grant's narrative, aligning the evidence-based strategies and activities with project output (see Appendix B). Together, these visualization tools provide insight into CT

SHIP's intended implementation processes. See Figure 1 below for an illustration of the evidence-based strategies incorporated into CT SHIP's design, activities they've identified to mobilize the strategies and associated project outputs. While connections are assumed to exist between these components. As such, this graphic is largely intended to be descriptive (not explanatory) to depict current conceptualizations regarding the relationship between and among model elements.

Figure 1: Alignment of CT SHIP's Evidence-based Strategies and Associated Activities with Targeted Outputs



Summary of Activities & Outputs

The following section builds upon the previous section by presenting actual project implementation activities and achieved output measures as outlined within the project's Work Plan.

CT SHIP has had great success in reaching its target output measures. Throughout the grant period, the project has employed the following evidence-based strategies related to its target output measures: *demand-driven, sector-based training; instructional delivery enhancements; accelerated training and simulation based learning; and stackable credentials*. Demand-driven, sector-based training targets focus on expanding healthcare sector partnerships, increasing opportunities for work-based learning (WBL), and enhancing educational capacities within consortium colleges. In addition to establishing healthcare sector partnerships, CT SHIP has emphasized instructional delivery enhancements, accelerated program options, and the creation of multimedia learning resources. These efforts aim to expand training capacities and streamline career pathway programs, allowing students to complete certifications more quickly. Furthermore, CT SHIP's stackable credentials and digital badging initiatives have added significant value to the program, enabling students to earn industry-recognized micro-credentials that align with employer needs.

The Digital Literacy Assessment and Training component also underscores CT SHIP's commitment to providing a well-rounded educational experience by enhancing students' digital skills through targeted assessments and resources. Collectively, these target outputs reflect CT SHIP's dedication to building a robust, responsive healthcare workforce that meets Connecticut's evolving industry demands. Table 1 summarizes the status of each target output and highlights the strategies and activities undertaken to achieve these goals. Following the table, these outputs are described in more detail.

Table 1. CT SHIP Target Outputs

Demand-driven, Sector-based Training			
Target Output Measures (Milestone)	Measures Attained	Status	Activities Summary
3 new regional healthcare sector partnerships "certified" by the Governor's Workforce Council	4	Exceeded	The Governor's Workforce Council (GWC) partnered with NextGen Sector Partnership consultants to conduct an extensive planning process before establishing Capital Area, Northwest, and Southwest sector partnerships during the first year of the grant. During Year 3, the Eastern CT Healthcare regional sector partnership launched at Backus Hospital following the Next Gen model. The Eastern WDB is the convener with support from Quinebaug Community College and the Southeastern Chamber of Commerce. The Good Jobs grant funded this launch.
50 healthcare employers sign on to participate in regional	58	Exceeded	The GWC secured formal commitments from 58 unique employers including community health centers, senior care facilities, and regional

healthcare partnerships with work-based learning (WBL) and/or hiring as an expectation of participation			hospitals. The formal commitments included the expectation of hiring CT SHIP graduates if positions were available.
400 CT SHIP career pathway education and training participants participate in WBL	350*	Not Met	The CT SHIP program achieved 75.0% of their goal of 400. CT SHIP participants had the opportunity to engage in WBL activities such as non-state-mandated clinical hours, externships, and job-shadowing experiences facilitated by local employers.
400 CT SHIP career pathway education and training program participants receive SNAP E&T	664*	Exceeded	The CT SHIP program exceeded their goal of 400 by 66.0%. Each CT state community college campus collaborates with a designated SNAP E&T and area workforce development board (WDB) partner, enabling a streamlined referral process for individuals seeking education and training services.
400 CT SHIP participants receive individual training accounts (ITAs)	299*	Not Met	The CT SHIP program achieved 74.7% of their goal of 400. Each campus strives to have their programs approved and listed on the WDB's qualified course list (ETPL), ensuring students can use their ITA funding for enrollment.
Instructional Delivery Enhancements: Accelerated Training and Simulation-Based Learning			
Target Output Measures (Milestone)	Measures Attained	Status	Activities Summary
7 new, interactive, animated training modules created and integrated	7	Met	A series of animated training modules has been developed to enhance CT SHIP's healthcare training programs. These include "Meet the Heart of the Hospital," integrated into CSPT programs, and various CNA-focused modules such as Long-Term Care, Dementia, Home Care, and Acute Care—rolled out between 2022 and 2024. Additional training, like End of Life interactive module, supports both CNA and PCT programs, while Surgical Technician is slated for integration by Spring 2025. Each module aims to provide interactive, specialized training tailored to program needs, fostering improved skills and knowledge in critical healthcare areas.
10 individual CT SHIP career pathway programs expand their annual capacity to train students or adjust curriculum	13	Exceeded	GCC added 2 programs in 2024 Q4 (MBC and MOA); HCC added 2 program: one in 2023 (Medical Office Billing and Coding) and one in 2024 (MBC); MCC added 6 programs: 1 in 2022 (Medical Office Billing and Coding), 4 in 2023 (HIM, HIM Data Management, PCT, Clinical Coding Certificate), and 1 in 2024 (MBC); and 1 PCT Apprenticeship program was added for a single deployment in 2023.
5 individual CT SHIP career pathway programs accelerate program completion time	7	Exceeded	Several of the healthcare programs attached to this grant accelerated their courses to enhance accessibility and efficiency. Housatonic's CSPT was reduced from 14 weeks to 10 weeks, CNA from 14 to 7.5; Middlesex shortened its Medical Billing and Coding from 15 weeks to 8 weeks, CSPT from 14 weeks to 10 weeks; Norwalk accelerated its CNA program from 14 weeks to 8 weeks; and Tunxis' CNA program shortened from 12 weeks to 6 weeks and CSPT reduced from 14 weeks

			to 10 weeks.
1 instructional video for CT SHIP Central Processing Tech education and training programs	1	Met	<p>The Center for New Media produced a 22-minute Central Sterile Processing Tech instruction video that offers an overview of the sterile processing technician role in a hospital setting.</p> <p>Video link: Meet the Heart of the Hospital: Sterile Processing</p>
Stackable Credentials			
Target Output Measures (Milestone)	Measures Attained	Status	Activities Summary
2200 students participate in CT SHIP career pathway education and training programs	2,612*	Exceeded	CT SHIP exceeded its student participation goals of 2,200 by 18.7%. All participating campuses employed the following highlighted strategies to recruit students into their programs: community partnerships, employee upskilling, paper and digital marketing, program orientations, and program graduate word of mouth.
1 CT SHIP marketing and recruitment video	1	Met	<p>The Center for New Media produced a marketing and recruitment video titled, "CT State Healthcare Career Opportunities," which highlights training and career prospects for CT State's CNA, Central Sterile Processing Technician, Patient Care Technician (PCT), Surgical Technologist, Health Information Technology Data Management, and Medical Coding and Billing programs. The video also emphasizes the availability of scholarship resources.</p> <p>Video link: CT State Healthcare Career Opportunities</p>
10 digital badges and/or micro-credentials developed and awarded to CT SHIP career pathways participants	10	Met	<p>CT SHIP successfully developed 10 micro-credentials to enhance workforce readiness in healthcare, with titles such as <i>Patient-Centered Communicator</i>, <i>Healthcare Professional</i> and <i>Interprofessional Collaborator</i>, which collectively earn a foundational digital badge. Other micro-credentials cover vital topics like healthcare documentation, infection prevention, resilience, vital signs theory, and age-friendly care. These micro-credentials equip healthcare professionals with specialized skills and knowledge, fostering excellence in their roles.</p> <p>Website link: https://ctstate.edu/workforce-development/microcredentials</p>
Digital Literacy Assessment and Training			
Target Output Measures (Milestone)	Measures Attained	Status	Activities Summary
1 digital literacy assessment tool developed and implemented	1	Met	CT SHIP has established a foundational structure for the assessment, which includes a survey format with four modules targeting essential digital skills such as proficiency in Microsoft Excel, general computer skills, internet skills, research skills, identifying bias, troubleshooting,

			social media, email, and cybersecurity - among other things. This tool aims to guide users to open-source resources based on their assessed needs, ensuring personalized skill development opportunities. Website link: https://ctstate.edu/literacy-assessment
125 participants complete AWS certification	0	Not Met	The Amazon Web Services certification was written in the grant to serve the Health Information Management (HIM) programs. The HIM coordinator advised CT SHIP that the AWS credentials were not of benefit for students nor employers. Therefore, the project removed this measure from their workplan to align with actual project needs.

note: The metrics presented in this table and the report may differ from those reported by the client due to variations in data collection methods, reporting timeframes, and definitional differences. While we strive for consistency, these differences are inherent to the reporting process. A detailed explanation of these limitations is provided in the **Limitations section of this report.*

Demand-driven, Sector-based Training. CT SHIP employed demand-driven, sector-based training strategies to achieve its grant goals, focusing on building its healthcare sector partnerships, work-based learning (WBL) opportunities, and collaboration with state workforce systems. Central to this effort was the Governor's Workforce Council (GWC), which took the lead in establishing and certifying new regional healthcare sector partnerships. These partnerships included the Capital Area Healthcare Partnership, Northwest Healthcare Regional Sector Partnership, and the South Central Healthcare Regional Sector Partnerships, meeting the grant's goal of three new regional healthcare sector partnerships "certified" by the Governor's Workforce Council. Additionally, at the start of Year 3 of the grant, the Eastern CT Healthcare Regional Sector Partnership launched at Backus Hospital and was supported by the Eastern Workforce Development Board (WBD) as the convener, with the assistance of Quinebaug Community College and the Southeastern Chamber of Commerce. This launch was funded by the Good Jobs grant and brought the total number of partnerships to four, exceeding the original goal of three.

To guide establishment of these partnerships, the GWC collaborated with NextGen Sector Partnerships, a consultancy with expertise in the Next Gen model, to lead an extensive planning process. This involved engaging regional leaders to define geographic areas, identify partners, and determine strategic approaches. Although the South Central partnership had a soft launch and did not strictly follow the Next Gen model, its convener, the Greater New Haven Chamber of Commerce, leveraged prior experience with Next Gen to support the initiative. Specifically, the Capital Area Healthcare Partnership was launched using funds from the American Rescue Plan Good Jobs Challenge grant.

Employer engagement has been a key aspect of these partnerships, with 58 employers across various sectors within healthcare (such as community health centers, senior care facilities, and regional hospitals) signing formal commitments to participate. A core expectation of these commitments is that employers will consider hiring CT SHIP graduates if positions are available. To support students' readiness for these roles, CT SHIP incorporated WBL activities on a

course-by-course basis, including non-state-mandated clinical hours, externships, and job shadowing opportunities provided by local employers. For example, CNA students were able to gain experience in acute care and rehabilitation settings beyond the state-mandated clinical hours.

At present, CT SHIP has met only 75% of their 400 CT SHIP career pathway education and training participants participating in WBL goal, primarily due to competing priorities and a lack of synergy between key stakeholders, including workforce boards, employers, and colleges. The grant was awarded in response to the COVID-19 pandemic, and at the same time, the state received federal CARES Act funding to support its own short-term training initiatives, such as Career ConneCT. These parallel funding streams created overlapping but separate efforts in healthcare training, leading to disjointed collaboration and making it more challenging to provide sufficient WBL opportunities.

CT SHIP also worked closely with each participating campuses' designated SNAP E&T and WDB partner to streamline referrals for individuals seeking educational and training opportunities. This partnership ensures that CT SHIP programs are approved and listed on the WDB's qualified course list (ETPL), allowing students to use their Individual Training Account (ITA) funding for program enrollment. Additionally, the Capital Healthcare Regional Sector Partnership supported the distribution of a micro-credential survey through which CT SHIP engaged four employers to assist in the initial development of micro-credentials. Over time, two more employers joined the development team, further enhancing the training opportunities for students. Further details on the development and implementation of the micro-credentials are provided in the Stackable Credentials section below.

Instructional Delivery Enhancements: Accelerated Training and Simulation-Based Learning. CT SHIP implemented several instructional delivery enhancements to expand career pathway capacities and accelerate program completion times across consortium colleges. These enhancements included the development and integration of instructional videos into Certified Nursing Assistant (CNA) and Patient Care Technician (PCT) programs. By May 31, 2023, CT SHIP completed the CNA/PCT Dementia video, followed by the End of Life video, which premiered on September 29, 2023. Both videos were showcased at participating campuses, and all five campuses integrated the two modules into their respective CNA and PCT programs, providing students with comprehensive, scenario-based learning resources.

All five consortium colleges have successfully expanded their capacity to train students. While some colleges had previously accelerated program completion times, CT SHIP enabled them to offer multiple accelerated courses within a single semester, thereby training more students overall. Significant expansions occurred across various healthcare programs. Gateway Community College (GCC) added two programs in the fourth quarter of 2024: Medical Billing and Coding (MBC) and Medical Office Assistant (MOA). Housatonic Community College (HCC) expanded by adding two programs: Medical Office Billing and Coding in 2023 and Medical Billing and Coding (MBC) in 2024. Middlesex Community College (MCC) added a total of six programs, with Medical Office Billing and Coding introduced in 2022, four programs in 2023

(Health Information Management, HIM Data Management, Patient Care Technician, and Clinical Coding Certificate), and one additional Medical Billing and Coding program in 2024. Additionally, a Patient Care Technician (PCT) Apprenticeship program was introduced as a single deployment in 2023.

This expansion was particularly notable in the CNA programs across all consortium colleges, as well as in HCC's Central Sterile Processing program, which incorporated employer input into the curriculum to ensure industry relevance. An HCC instructor, who also works at Yale New Haven, participated in the script review for the CT SHIP Central Sterile Processing instructional video, providing insights on accurate role representation and typical hospital procedures. This video, developed by the Center for New Media, is just over 22 minutes long and has been integrated into all Central Sterile Processing programs since September 2022.

As of September 30, 2023, CT SHIP has exceeded its target outputs for expanding training capacities and updating curricula across 13 career pathways programs. This accomplishment highlights the project's commitment to meeting and surpassing grant goals, providing enhanced learning experiences and accelerated paths for students in healthcare-related fields.

Stackable Credentials. CT SHIP engaged in activities aligned with the employing stackable credentials as an evidenced-based strategy. These activities were aligned with project outputs related to the following: students participating in career pathway education and training programs, and the Center for New Media creating a marketing and recruitment video.

The CT SHIP enrolled 118.7% total students compared to its goal of 2,200 participating in its career pathway education and training programs. Consortium colleges employed the following highlighted strategies to recruit students into their programs: *community partnerships*, *employee upskilling*, *paper and digital marketing*, *program orientations*, and *program graduate word of mouth*. See the findings section below for a detailed description of these strategies and other recruitment and enrollment findings. Table 2 provides a high-level description of these highlighted strategies.

Table 2. Description of Highlighted Recruitment Strategies

Recruitment Strategy	Support Description
Community partnerships	Collaborating with local shelters, non-profit organizations, and workforce development boards to engage un- and under-employed individuals interested in CT SHIP programs by sharing information about training programs, course dates, enrollment processes, and timelines.
Employee upskilling	Proactively engaging employers to promote upskilling opportunities for their employees, benefiting both parties by helping colleges achieve enrollment goals and allowing employers to support employee education and training without significant investment.

Paper and digital marketing	Utilizing paper and digital marketing channels such as distributing course brochures to local residents, posting course offerings on institution websites, and leveraging social media platforms for student recruitment.
Program orientations	Conducting program orientations and open houses to provide interested individuals with in-person opportunities to learn about available programs and college services, interact with faculty, and generally gain a deeper understanding of the program experience.
Program graduate word of mouth	Leveraging satisfied program graduates as highly effective ambassadors who share their positive experiences and serve as advocates, effectively promoting the values and benefits of programs to potential students.

The Center for New Media premiered the CT SHIP marketing and recruitment video on December 14, 2022. The video, titled CT State Healthcare Career Opportunities, provides potential students with training and career opportunity information for CT State's CNA, Central Sterile Processing Technician, Patient Care Technician (PCT), Surgical Technologist, Health Information Technology Data Management, and Medical Coding and Billing programs. The video closes by emphasizing scholarships available to students and a link to more information.

Additionally, CT SHIP has made commendable progress in developing and implementing its micro-credentials and digital badging initiatives, despite initial delays. The micro-credential/badging committee launched with a strong focus on data collection, conducting an initial round of interviews with key healthcare employers to identify specific skill gaps and needs within the healthcare sector. This qualitative feedback from select employers informed the development of a broader survey, which was distributed to over 50 healthcare partners with the assistance of grant partners utilizing the Regional Sector Partnerships and the 1199 Training Fund to maximize outreach. Responses from this survey provided critical insights, allowing the team to outline a series of micro-credentials that address identified skills gaps.

The first micro-credential, "Patient-Centered Communicator" (PCC), was successfully piloted in a Patient Care Tech program at the Tunxis campus with positive feedback from participating students. The team then began developing additional micro-credentials in the "Professionalism in Healthcare" series, with the second, "Healthcare Professional," and a third focusing on teamwork and interprofessional collaboration. Collaboration with industry stakeholders, such as Hartford Healthcare and Nuvance Health, and additional partners has strengthened the development process, ensuring that each micro-credential is aligned with real-world needs.

In parallel, the CT SHIP team has worked on establishing a digital badging infrastructure, partnering with Credly to support the awarding and tracking of badges. This digital platform will enhance the value and visibility of micro-credentials, supporting students in advocating for their new skills in the job market. The creation of infographics and other resources further equips students to highlight their achievements. Additionally, the CT SHIP micro-credentials program has laid for other micro-credentials at CT State. The team has worked closely with Charter Oak

State College to create synergy in definitions and framework, refining the registration process and accessibility over time.

Furthermore, all micro-credentials have been fully reviewed by a third party (PPM Associates), which created a catalog for OERs and assessed them for accessibility compliance. Adjustments and refinements were made in December 2024 and January 2025 to ensure 504 compliance. Overall, the team's efforts in micro-credentialing and digital badging reflect a well-coordinated, employer-informed approach to workforce readiness, with clear pathways for future scalability and sustainability. A dedicated webpage has also been created on the CT State website to provide additional information and resources.

Digital Literacy Assessment and Training. The grant initially included funding for the Amazon Web Services (AWS) certification within the Health Information Management (HIM) programs; however, after feedback from the HIM coordinator indicating that the AWS credentials would not be beneficial for students or employers, the Project Director consulted with the Federal Project Officer (FPO) to reallocate these funds to other essential areas such as improving the marketing strategy for programs that are underenrolled (Patient Care Technician and Central Sterile Processing Technician).

Additionally, the development of a digital literacy assessment was originally not undertaken due to the discovery of an existing college readiness course within the consortium. However, after a site visit from the FPO, it was advised to revisit this output. During the final year of the grant, the CT SHIP team has made significant progress. The client has established a foundational structure for the tool, which includes a survey format with four targeted modules that assess essential digital skills, such as proficiency in Microsoft Office, Canva, Teams, Zoom, general computer skills, internet skills, research skills, identifying bias, troubleshooting, social media, email, and cybersecurity. This tool aims to guide users to open-source resources based on their assessed needs, ensuring personalized skill development opportunities. By grant's end, the digital literacy assessment tool had been completed and added to the Tutoring Resources webpage of the college. The project team shared that the digital literacy assessment may be promoted or embedded as an option into the CCS (College readiness course) course which is required of all students as a gen ed.

Methods and Analyses

HEI evaluators adhere to U.S. Health and Human Services federal assurance guidelines for the ethical treatment of study participants. The HEI team is certified as having completed human subjects protection training.

The evaluation team conducted a concurrent, triangulation mixed-methods evaluation to assess the fidelity of CT SHIP implementation; efficacy of capacity-building strategies; and realization of targeted student, institutional, and workforce outcomes. Data sources and collection methods included a student questionnaire, review of program documents and extant data, a survey for program leads, and interviews with project staff and other key informants. The data was

analyzed separately and then compared, contrasted, and ultimately interpreted in light of the research questions. This methodology included conducting content analysis of program documents, descriptive statistics of all quantitative data (disaggregating where appropriate), and applying an emergent scheme to guide analysis of all interview data. All data was triangulated to identify consistencies and discrepancies of ideas across stakeholder groups and information sources

The following outlines this evaluation's data collection approach.

Document Request Framework

A document request framework, aligned with the project work plan, was created to assure alignment between proposed activities and those actually engaged. HEI collected and assessed artifacts in physical or digital form, including documentation of activities (e.g., employer engagement, regional healthcare sector partnership formation, instructional delivery enhancements), program artifacts (e.g., training modules, digital literacy assessment tools, digital badges), and other relevant outputs detailing processes, activities, or products contributing to this effort. At the beginning of each program year, HEI provided CT SHIP program staff with a document request table that helped guide program staff to collect and track various documents throughout the program year instead of tracking down documents at the end of the year. The most recent document review framework can be found in Appendix C.

Staff and Stakeholder Interviews

HEI annually conducted interviews with CT SHIP program staff and key institutional stakeholders on a mutually agreed-upon schedule, which took into consideration the timeline of project activities and reporting requirements. The interviews provided insight into implementation progress related to training development, curriculum revisions, virtual delivery capabilities, program capacity, employer engagement, partnership formation, workforce alignment, and other activities integral to supporting core program components. Additionally, interviews solicited insights surrounding successes and challenges, preliminary student outcomes, and feasibility of sustaining and scaling program efforts.

The HEI team worked with CSCU to identify key informants from each stakeholder group. HEI developed a semi-structured interview protocol, including a consent process, to guide conversations with participants. Further, questions in the interview protocol were tailored to each stakeholder group. HEI facilitated interview recruitment and scheduling via email and conducted interviews via Zoom. HEI requested consent from interviewees to record each call so that the audio (only) could be professionally transcribed for data analysis. Distinct interview protocols were developed each year to evaluate each year's activities while also assessing general challenges and successes experienced by the project. Questions asked to program staff and stakeholders can be found in Appendices D - F.

Student Questionnaire

HEI developed and implemented a student questionnaire. The questionnaire was submitted to the CT SHIP Program Director for review and feedback before administration. The survey was

administered to capture students' perceptions of program offerings, training experiences, and supports or barriers influencing success. The questionnaire also explored students' self-reported outcomes, including those relating to workforce readiness, **academic and industry credential attainment, work-based learning participation, and employment placement**. The questionnaire was developed and approved by the CT SHIP Director in Year 2. It was administered via Survey Monkey in Years 2–4. The paper version of the survey can be found in Appendix G.

Program Lead Survey

To gather insights from the Program Leads, a Zoom survey was conducted immediately following each Program Lead interview or focus group during the final year of evaluation. This survey included nine questions designed to capture perceptions on critical aspects of the CT SHIP program, such as overall program quality, student workforce readiness, and employer satisfaction. Using a 5-point Likert scale, the survey allowed respondents to express levels of agreement, effectiveness, and other satisfaction measures. This structured approach provided a consistent means of quantifying Program Leads' perspectives, allowing for clear comparisons across the responses. The survey format also enabled Program Leads to provide quick feedback on key measures essential to evaluating program impact. The Zoom survey questions can be found in Appendix H.

Extant Data

HEI reviewed extant data, which encompassed an examination of outcomes data. This extant data included: student enrollment, retention, digital badging, certification or credential attainment, employment, individuals receiving ITAs, programs' acceleration complete time, employers engaged, and partnerships sustained or formed to ascertain the extent to which targeted CT SHIP success metrics were realized.

Sampling

Multi-level sampling approaches were deployed, including institutional site, healthcare pathway, training program, and stakeholder groups. Moreover, this evaluation used purposive sampling techniques to identify units (e.g., institutions, programs) and participants (e.g., team members, students) most appropriate for inclusion within the evaluation study. Interviews were conducted with the CT SHIP Project Director, grant compliance assistant, health careers counselor, and Program Leads from each of the five consortium colleges. These individuals were intentionally selected because they offered the greatest insights into overall grant efforts, including contextual understandings regarding their respective colleges; knowledge about activities and strategies being implemented; and progress toward student, institutional, and workforce outcomes. Additionally, all students participating in CT SHIP program initiatives were invited to complete the student perceptions questionnaire. The full population will comprise the sample, as this approach would afford the greatest opportunity to comprehensively understand student experiences and identify whether differences exist based on program characteristics or student demographics. Finally, documents and other artifacts collected for review represented activities being implemented and outcomes observed at each of the consortium institutions

(and beyond once scaling occurs), including documentation of efforts within relevant education and training programs across each of the three targeted healthcare pathways.

Recruitment strategies for each stakeholder group were developed once there was enhanced understanding of target populations, with approaches tailored to best accommodate the needs of each group and collection method. Factors considered include risks and benefits of participation that are of greatest relevance to stakeholders; accessibility of efforts in terms of modes of collections (e.g., in person, phone, or video; individual vs group; synchronous vs. asynchronous; paper/pencil vs electronic), outreach mechanisms (e.g., in person, email, course site, or text communications), the time commitment required, and timing of activities (e.g., days, evenings, weekends).

Data Analysis

HEI's analysis plan aligned with a concurrent triangulation mixed methods evaluation design in that quantitative and qualitative data collected were analyzed separately; and then compared, contrasted, and ultimately interpreted in light of the research questions. Document review analysis consisted of conducting a content analysis of the documents provided and comparing evidence against the document review framework. Once all documents were reviewed, progress toward project goals was assessed.

HEI performed descriptive statistics of all quantitative data in alignment with the evaluation's specific purposes and questions.

Qualitative data from interviews were analyzed using Dedoose to address evaluation questions. HEI used an emergent scheme to guide analysis, a process that allows for ideas and concepts to develop as evaluators engage in the analytical process. This process culminated in a coding system, which was iteratively refined as the understanding of constructs evolved. The narrative was parsed into bits of content and fit into the established coding system. Each excerpt was examined to assess applicability to emergent codes while allowing for the production of new ones. Further, data were compared against the accumulating narrative content, applying a constant comparative method.

Findings across methods and sources were triangulated to comprehensively address questions regarding CT SHIP's effectiveness. Doing so helped reduce biases inherent to relying solely on singular sources of data. Data were compared and contrasted, looking for patterns as well as disconfirming evidence that may suggest inconsistencies across or even within units of analysis. HEI identified program elements that prove to be most efficacious as well as those that needed improvement.

Findings

The primary focus of the findings section is to present learnings that supplement the documentation of activities and outputs detailed in the previous sections. This section presents findings organized by themes related to the grant's Core Elements, providing greater depth and

insights. Additionally, the findings section presents the evaluation questions, addressing progress made towards the grant's goals.

Core Element #2: Sector Strategies and Employer Engagement

Employer partnerships are a critical component of the CT SHIP model. These partnerships ensure that students can secure employment after graduation. (These efforts are described in detail above in the student support for program completion and job placement section.) As discussed in that same section, each consortium college has established individual partnerships with specific employers, both large and small. For some, these partnerships were formal, involving monthly or biweekly meetings; for others, the relationships were less formal, but no less well established. The two employer partners interviewed provided insight into their primary activities thus far in the project, which included the following:

- advising students on future career and academic paths
- advertising scholarships for additional academic pursuits
- providing tuition assistance
- providing input on curriculum (e.g., developing a new micro-credential)
- providing instructors to teach CT SHIP programs
- hosting on-site education fairs for employees

Similar to employer partnerships, partnerships with area workforce development boards (WDBs) are an important component of the CT SHIP model. CT SHIP Program Leads described frequent collaboration with WDBs that included monthly visits to campus where WDB staff engaged a wide range of students during their on-campus visits. As described above, WDBs also serve the role of referring students to project training programs, with the program completers returning to the referring WDB for support in securing employment.

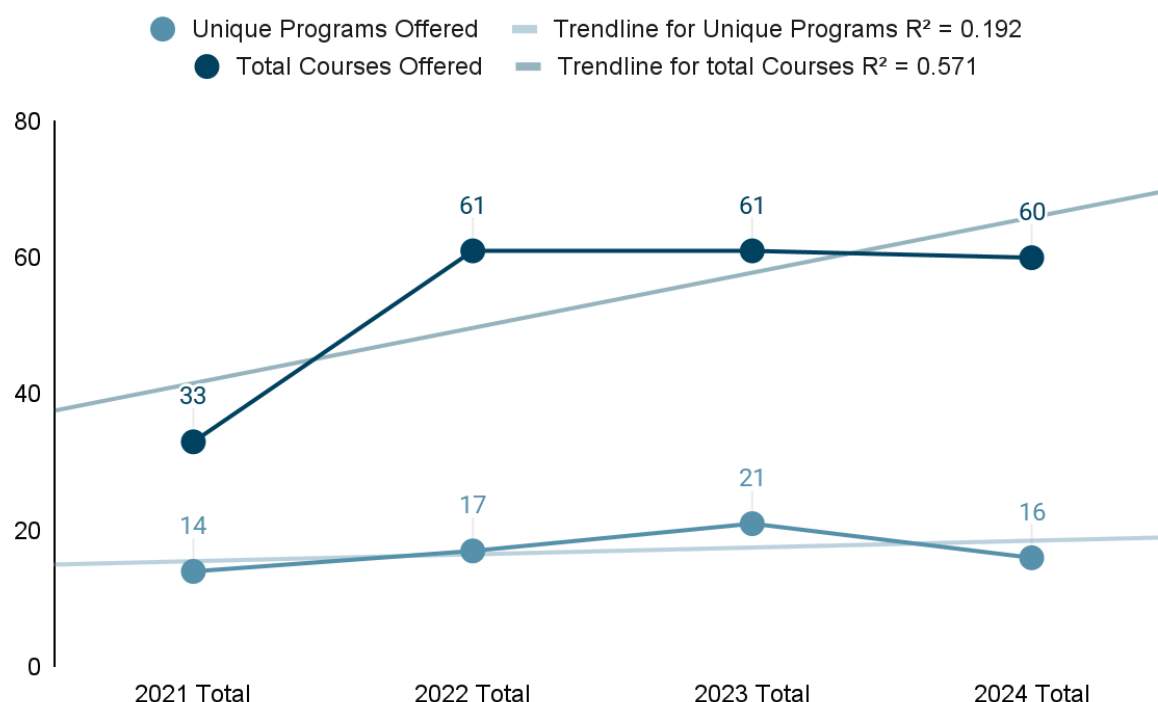
Core Element #3: Enhanced Career Pathway Programs and Accelerated Learning Strategies

The findings reported in the summary of activities and outputs section above, are directly related to the project's workplan measures. Further data analysis revealed the following findings related to core element #3:

- 17 individual CT SHIP career pathway programs expand their annual capacity to train students and/or adjust their curriculum to respond to employer input (See the “Instructional Delivery Enhancements” section in Table 1).
- 15 total unique programs were offered to students at the five participating institutions over the course of 4 years.
- 215 total courses were offered to students at the five participating institutions over the course of 4 years

See Figure 2 for a full breakout by year.

Figure 2: Programs and Courses Offered, All Institutions



Expanding capacity to successfully enroll participants is a critical component of CT SHIP’s design. Facilitating successful program completion and subsequent job placement of program graduates are two additional critical design components. The CT SHIP project team and the consortium colleges offer various systems of support for their students toward program completion and job placement.

This section presents findings related to systems of support highlighted during interviews with Program Leads at consortium colleges, student workforce outcomes, CT SHIP healthcare career advisor activities, barriers to student academic and career success, and other student support findings.

Highlighted Support Systems for Program Completion. The consortium colleges described using a holistic approach to student support that focused on assisting program completion by considering needs both internal and external to the classroom. Specifically, consortium colleges highlighted the following support systems for program completion: *campus support centers and services, individual coaching (e.g., SNAP E&T coach), food pantry, transportation services, technology support, and laptop distribution.* (See Table 3 for a description of program completion supports.)

Table 3. Description of Program Completion Supports

Program Completion Supports	Support Description
Campus centers and services	Students have full access to the colleges' academic and co-curricular offices such as academic support centers, library (to borrow computers and hotspots), and healthcare and mental health services.
Healthcare Career Advisor	The Healthcare Career Advisor provides significant support for students during and after programs - helping students with Resumes, virtual job fairs, raising awareness of micro-credentials, following up about licensing requirements, and making connections to employers.
Individual coaching	Coaches such as SNAP E&T coaches for SNAP E&T recipients and college-specific achievement coaches help connect students to college and local resources that help them meet individual and/or familial needs.
Food pantry	Students experiencing food insecurity are provided food via a permanent or mobile food pantry depending on their college.
Transportation services	The U-Pass allows students to ride the bus and train for free during enrollment.
Technology support	Laptop distribution programs provide some students laptops to use while enrolled, laptops they can keep after program completion.

Although CT SHIP students are enrolled in non-credit bearing programs, they still have full access to the consortium colleges' systems of support, which include access to various campus support centers and services. Collectively, consortium colleges highlighted student access to the following: academic support center (e.g., to receive ESL support), accessibility center (e.g., to access student accommodations), disability services, tutoring services, campus library (e.g., to borrow computers and hotspots), healthcare and mental health services, and basic needs and wellness center.

Additionally, CT SHIP students have access to individual coaching via offerings such as SNAP E&T coaching and college-specific achievement coaches. The role of these coaches is similar to that of a case manager: the coaches check in with students to see if they're experiencing any academic or personal barriers and connect them with the necessary resources to support successful completion. (Note: CT SHIP students also have access to advising and coaching from the grant-funded Healthcare Career Advisor, a position discussed in more detail later in this section).

Since transportation can sometimes be a challenge for students, colleges also mentioned transportation support offered directly by the college or through U-Pass, which offers students free bus and train rides while they are enrolled in a community college.

Two additional systems of support highlighted by the Program Leads include food pantry and technology support. Food insecurity is a significant challenge for many students, even for those who are not SNAP E&T recipients. To address this need, all colleges have a food pantry to

distribute food to students. Some of these pantries are mobile while others are permanent, with some colleges who offer mobile food pantry services working towards establishing a permanent pantry. Finally, in terms of technology support, access to laptop distribution at consortium colleges is determined by a program's credit-bearing status. All colleges have laptop lending programs in place for credit students, whereas some colleges have limited laptop distribution programs that give laptops to non-credit students to use during their training program and to keep after completion. CT SHIP has been working with colleges to put laptop-lending programs in place, as needed, for non-credit students. In December 2024 - Tunxis ordered 18 loaner laptops for Non-credit students. Housatonic also ordered laptops (7) in the last quarter of 2023.

Highlighted Support Systems for Job Placement. It is important to note that the emphasis of CT SHIP training programs is job placement; therefore, from recruitment through completion, students are being informed about job possibilities based on their training. Specifically, consortium colleges highlighted the following support systems for job placement:

- work-based learning (WBL) activities
- job advertisements
- partnerships with healthcare facilities
- workforce development board partnerships
- instructor referrals
- campus career centers

Project WBL activities serve the partial purpose of supporting student job placement. Whether it is through job shadowing, non-state mandated clinical hours, or externships, these activities allow students to make connections with potential employers. Students often have the opportunity to be employed after graduating by the employers from their clinicals. Additionally, consortium colleges advertise jobs with students via job fairs (some which have on-the-spot job interviews and offers) and job boards.

All colleges have partnerships with healthcare facilities. Through these partnerships, healthcare facilities participate in the aforementioned job fairs, host employer-specific information sessions to discuss what it would be like to work at their facility, and conduct on-site job interviews at the consortium college. Generally speaking, Program Leads found that employers are particularly interested in hiring Certified Nursing Assistants (CNAs) and often reach out to consortium colleges to share hiring needs.

Students' connections to employers also come through their local WDB and/or their classroom instructors. Students who enroll into a CTS SHIP program through an area American Job Center/WDB also receive job placement support from the American Job Center WDB. Specifically, the WDB's career agents (i.e., coaches) work with students to identify, prepare for (e.g., résumé development), and pursue job opportunities aligned with their training. In some cases, classroom instructors either work for or have relationships with local employers and subsequently provide referrals for their students.

Finally, students are able to take advantage of résumé writing training and participate in mock interviews through their campus' career centers and/or career development offices.

CT SHIP Healthcare Career Advisor. The CT SHIP healthcare career advisor (HCA) warrants special attention because it was a newly created position as a result of this grant within CSCU's system as it focuses solely on advising and supporting noncredit students. The HCA role was not consistently filled. However, at the start of Year 4, the role was permanently filled. This section provides additional details regarding the HCA's role and approach to date.

The HCA is often introduced to CT SHIP students via in-person or virtual orientations conducted in each class. During these orientations, the HCA presents information related to the HCA's role in student retention, program completion, and job placement; the HCA also conveys available resources and services available to students. After the orientation presentation, the HCA schedules follow-up with one-on-one meetings with any interested student. During these one-on-one meetings, the HCA completes the CT SHIP student information intake form to assess and document student information such as employment history, education and training history, caretaker status, and personal goals and interests. The healthcare career advisor connects and collaborates with each consortium college's resources based on student assessment, need, and interest. Lastly, the HCA assists students in job search techniques, interviewing, and securing employment.

Core Element #4: Strategic Alignment with the Workforce Development System

The findings reported in the summary of activities and outputs section above, are directly related to the project's workplan measures. Further data analysis revealed the following findings related to core element #4:

- Enrollment of students receiving SNAP E&T grew in Year 2 (174) and showed moderate decline moving into Year 3 (166). During Year 4, students receiving SNAP E&T grew again to a program peak of 233 enrolled students. Despite the small decline in Year 3, the program exhibited a moderately positive linear trend in SNAP E&T granted across the four years of the grant.
- Enrollment of students with ITAs grew from Year 1 through 3 until their peak in Year 3 (109) and showed sharp decline from this peak in Year 3 to the program's second lowest level in Year 4 (62). Despite this decline from the prior year, the program exhibited a faint positive linear trend in ITAs granted across the four years of the grant.

See Figures 3 & 4 for a full breakout of SNAP E&T and ITA students enrolled each year.

Figure 3: Total SNAP E&T Among Enrolled Students, All Institutions

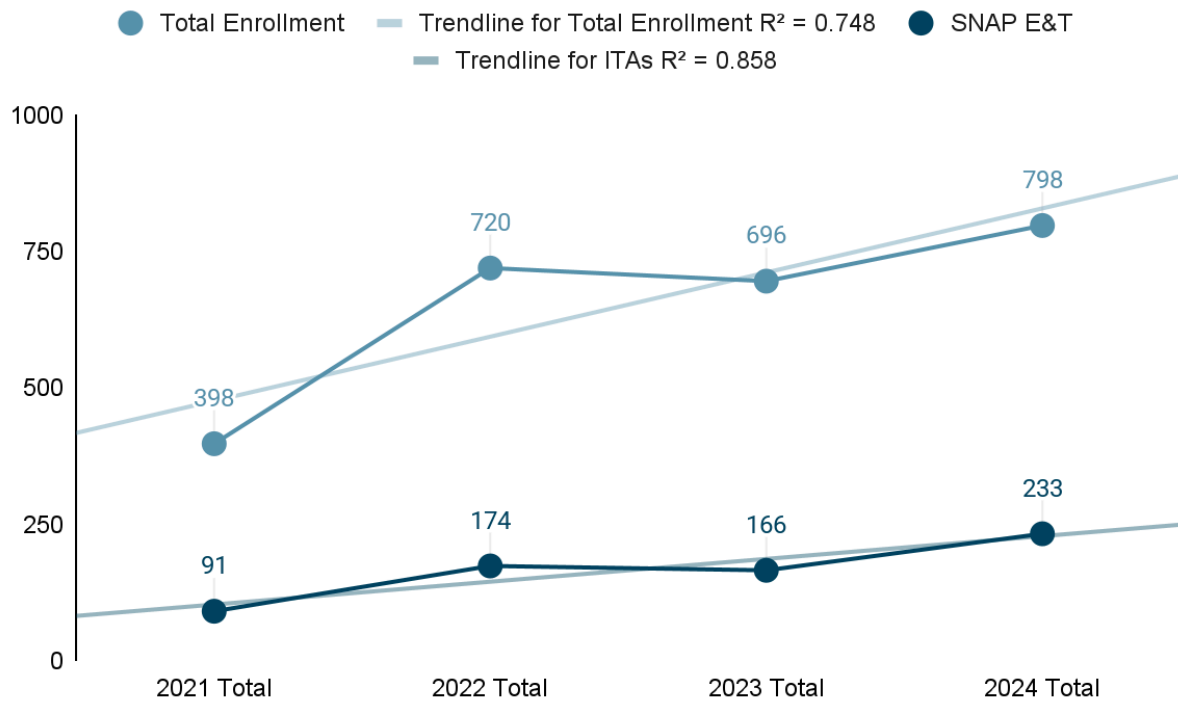
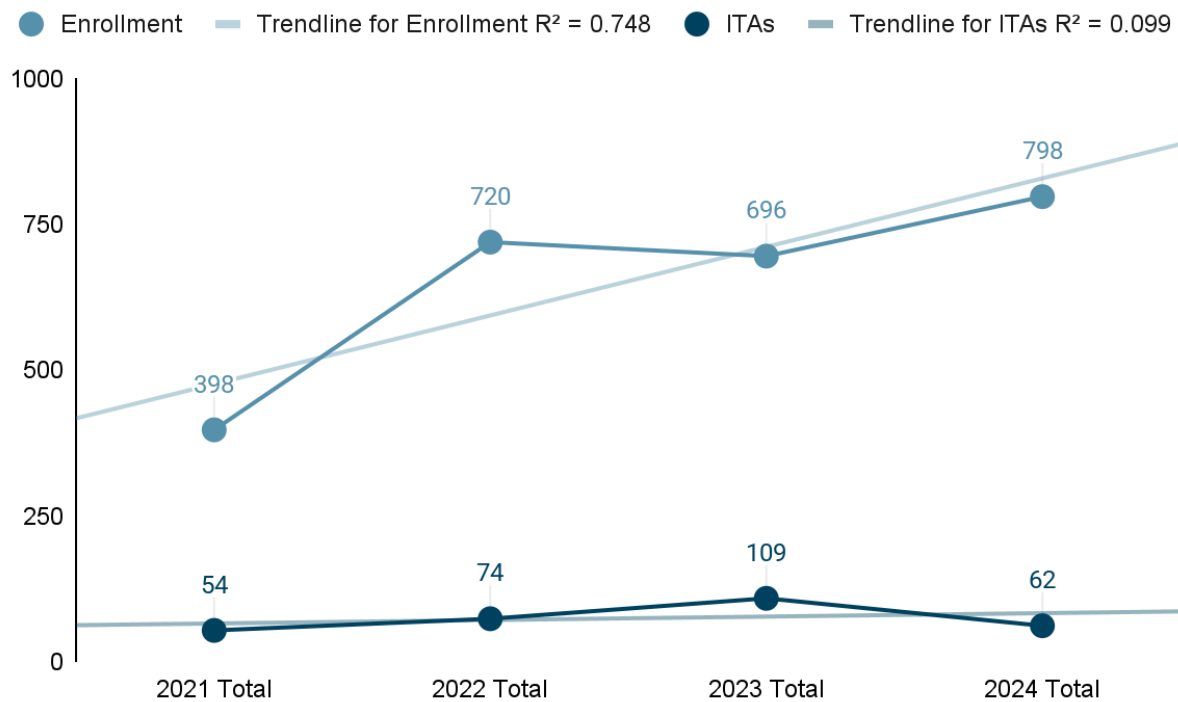


Figure 4: Total ITAs Among Enrolled Students, All Institutions



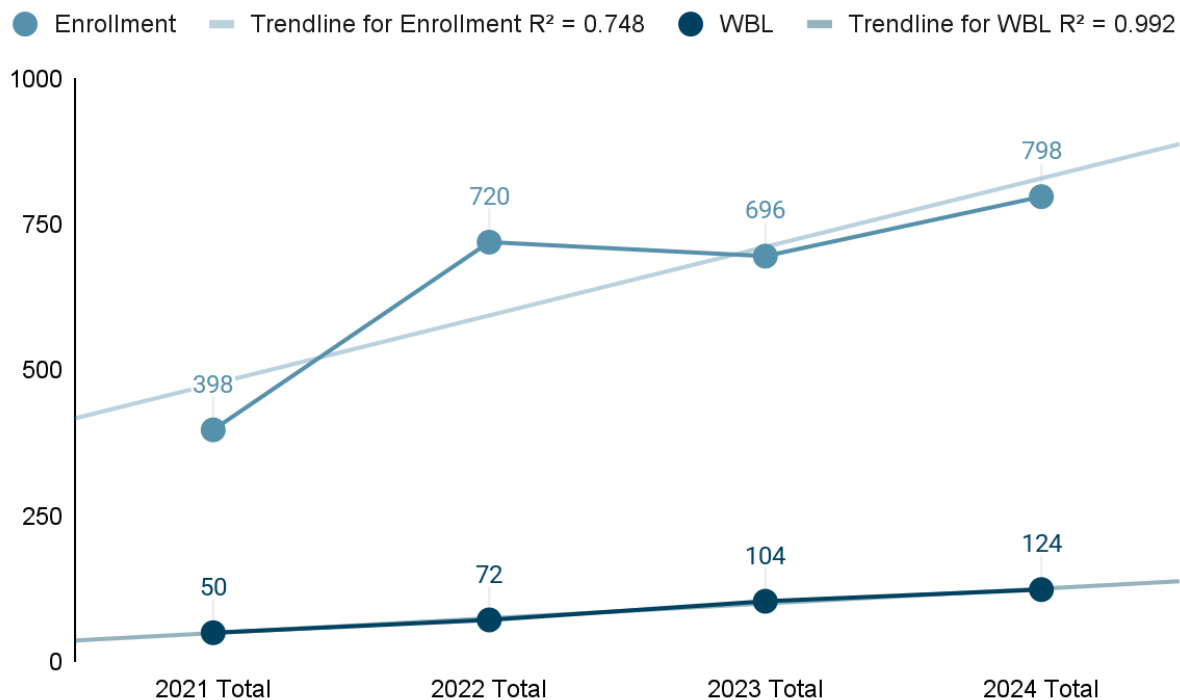
Core Element #5: Innovative Systems Change

The findings reported in the summary of activities and outputs section above, are directly related to the project's workplan measures. Further data analysis revealed the following findings related to core element #5:

- Overall, 38 total courses included WBL opportunities for students across the 4 years of the grant program using program data provided by each institution.
- 350 total enrolled students participated in WBL.
- A moderately strong positive linear trend was observed over the four years of the program.

See Figure 5 for a complete breakout of enrollment in WBL programs across each of the four program years.

Figure 5: Total Work-Based Enrollments, All Institutions



Qualitative Measures

The qualitative measures in this evaluation are critical for capturing the full impact and effectiveness of the CT SHIP Project. While quantitative metrics provide data on enrollment and completion rates, qualitative measures offer deeper insights into how well the program meets the needs of its students, employers, and community as a whole. By examining factors like the perceptions of program quality, student readiness for the workforce, and employer satisfaction, this evaluation highlights the practical and experiential elements that shape the program's overall success. Results from the Program Lead survey can be found in Appendix J.

Perceptions of program quality

Program Leads and staff consistently highlight CT SHIP's strengths, particularly the quality of its CNA program, which is highly regarded across campuses for its rigorous curriculum and workplace-experienced instructors. The program's flexibility and accelerated models received positive feedback from the Program Leads for meeting student needs while maintaining high educational standards to adapt to workforce demands. Accessible resources such as micro-credentials, further enhanced its perceived quality among the Program Leads.

When asked about their perceptions of program quality in a short Zoom survey, all five Program Leads indicated feeling that the program was *effective* to *very effective* at incorporating current industry trends and technologies (on a 5-point Likert scale). Similarly, Program Leads indicated they *mostly* or *completely* thought the program's content and structure were of high quality and aligned with workforce demands. Staff also felt that the accelerated curriculum equips students with practical skills and knowledge that *somewhat* to *mostly* align with industry standards.

Student workforce readiness

CT SHIP prioritized real-world readiness, and instructors bring direct industry experience, which they incorporate into their teaching. This practical insight helps students develop not only technical skills but also essential workplace behaviors, such as patient care techniques and equipment handling. Partnerships with local healthcare employers ensure that the curriculum aligns with immediate industry needs, leading to students being job-ready upon program completion.

Program Leads were also surveyed on a variety of topics related to the program outcomes leading students to be better prepared to enter the workforce. Program Leads were *fairly* to *very confident* that students completing these programs were well-prepared for entry-level positions in their field. All five Program Leads *agreed* that students possessed the soft skills necessary for workplace success. Program Leads were *satisfied* to *very satisfied* with the support and resources provided by the grant to help students succeed post-graduation.

Employer satisfaction

Employers have expressed high levels of satisfaction with CT SHIP graduates, especially in high-demand roles like CNAs. Many healthcare providers actively engage with CT SHIP campuses to recruit trained graduates, viewing the program as a reliable source of well-prepared employees. The program's sector partnerships have strengthened this satisfaction by allowing employers to provide feedback on curriculum needs, particularly in developing relevant micro-credentials. These partnerships ensure that CT SHIP training aligns closely with current workforce demands, further enhancing employer confidence in graduates' skills and readiness.

Program Leads were surveyed as to how employers would view the quality of students graduating from these programs. The five Program Leads thought employers view the technical skills of students from this program *very* or *extremely well*. Similarly, they also *agreed* or *strongly agreed* that employers generally regarded completers from this program as well

prepared for their roles. All five Program Leads *agreed* that employers believe the program addresses the key skills and knowledge they seek in new hires.

Program challenges

CT SHIP noted several challenges, including variability in students' digital literacy and limited technology skills, which at times impacted engagement and program completion rates. This was especially difficult for students who solely relied on mobile devices, as full participation in online or hybrid courses requires a computer. Additionally, balancing accelerated and traditional course formats presented challenges, as some students struggled with the fast-pace of an accelerated option. While the accelerated options were very popular among the student population, the quick pace was not suitable for all learners. Some Program Leads have considered implementing a vetting system to help place students in course formats that best fit their learning needs. Finally, resource constraints such as a shortage of adequate instructors or budget limitations occasionally impacted the program's ability to expand quickly.

Program successes

At a high level, CT SHIP's successes include exceeding enrollment targets, strengthening their workforce partnerships, and developing micro-credentials. The program's structure, which provides students from low-income backgrounds with affordable, quality healthcare training, has been transformative, helping many secure stable employment. Additionally, CT SHIP has supplied resources that enhance learning environments, such as specialized equipment for training labs.

Barriers to student success

Significant barriers to student success include limited access to technology, a lack of digital literacy, and socioeconomic hardships that prevent some students from fully participating or completing programs. Program Leads shared that many students face life circumstances, such as balancing childcare and job responsibilities, which disrupt their studies. The program has mitigated some of these barriers by providing loaner laptops, though demand for these devices have often exceeded availability. Campuses such as Gateway have allowed their students to just keep their laptops even after program completion.

Facilitators of student success

The following factors were named by CT SHIP project leadership as well as the Program Leads as key facilitators of student success:

- **Case Management and Personalized Support.** CT SHIP's case management services were highlighted as crucial to providing students with a support network and someone to turn to for guidance on academic and personal challenges. Program Leads worked closely with students, offering encouragement, helping them to navigate program requirements, and addressing any issues that arose.
- **Hands-on Learning and Industry-Experienced Instructors.** Many instructors come from healthcare backgrounds, bringing practical, real-world insights into the classroom. This experience allows students to learn skills that are immediately relevant in the workplace,

enhancing their confidence and preparedness. Instructors also emphasize soft skills essential in the healthcare field, helping students transition smoothly into employment.

- **Access to Equipment and Resources.** By securing specialized equipment for healthcare training, such as hospital beds, mannequins, washers and dryers, and digital tools, CT SHIP has enriched its learning environments. Access to these resources enables students to gain hands-on experience that mirrors the demands of actual healthcare roles, making them more job-ready upon completion.
- **Employer Engagement and Job Placement Opportunities.** Partnerships with local healthcare providers facilitate job placement, with some employers conducting recruitment sessions directly on campuses. This connection to employers creates a seamless pathway for students from training to employment, which is a powerful motivator and enabler of student success.
- **Scholarship and Financial Assistance.** Financial support through scholarships and grants reduces the burden of tuition, allowing more students to participate who might otherwise be unable to afford the training. This support has been critical in enabling low-income students to complete their programs and seek stable employment.

Program scalability

CT SHIP's accelerated healthcare programs, particularly the high-demand CNA training, have demonstrated the program's potential for scalability. With a robust foundation in place (comprising specialized equipment, experienced instructors, and established employer partnerships), several campuses expressed interest for future possibilities of expanding course offerings. However, their main focus is to sustain what has already been implemented. The availability of resources, such as hospital beds, mannequins, and other equipment secured through CT SHIP, ensures that campuses are equipped to increase enrollment and support additional healthcare pathways, such as Gateway with their dental assistance program, if needed.

Program sustainability

CT SHIP project leadership shared the steps they are taking to ensure sustainability beyond the grant period:

- **Continued Program Delivery.** CT SHIP's accelerated training models and core healthcare programs, such as CNA training, are set to continue beyond the grant's end. These programs are integral to meeting local healthcare demands, and campuses plan to maintain them as long as enrollment supports their visibility.
- **Resource Infrastructure.** The program's investment in equipment (like hospital beds, mannequins, and digital literacy tools) has established a foundation for ongoing training. This equipment enables campuses to deliver hands-on, quality healthcare education independent of further grant funding.
- **Digital Literacy and Micro-Credentials.** Digital literacy resources, including assessments and tutorials, will remain accessible to students. Additionally, CT SHIP's micro-credentialing framework, developed with employer input, is designed to be adaptable across the consortium, which could support future expansion of additional healthcare programs.

- **Sector Partnerships.** CT SHIP has established partnerships with local employers and workforce boards, ensuring that programs remain relevant to workforce needs. These relationships are likely to support ongoing student placement and curriculum relevance.
- **Institutional Support.** CT SHIP plans to recommend continued support for key roles, such as micro-credential coordinators, in its final sustainability plan. This plan will outline essential staffing and resource needs for maintaining program quality.
- **Institutional Collaboration.** There are currently efforts underway to survey other campuses about micro-credentials, survey students, and survey employers on micro-credentials and hiring. This is an effort to expand the offerings to other campuses. They are also in the process of creating a formal position for management of micro-credentials.

Quantitative Measures

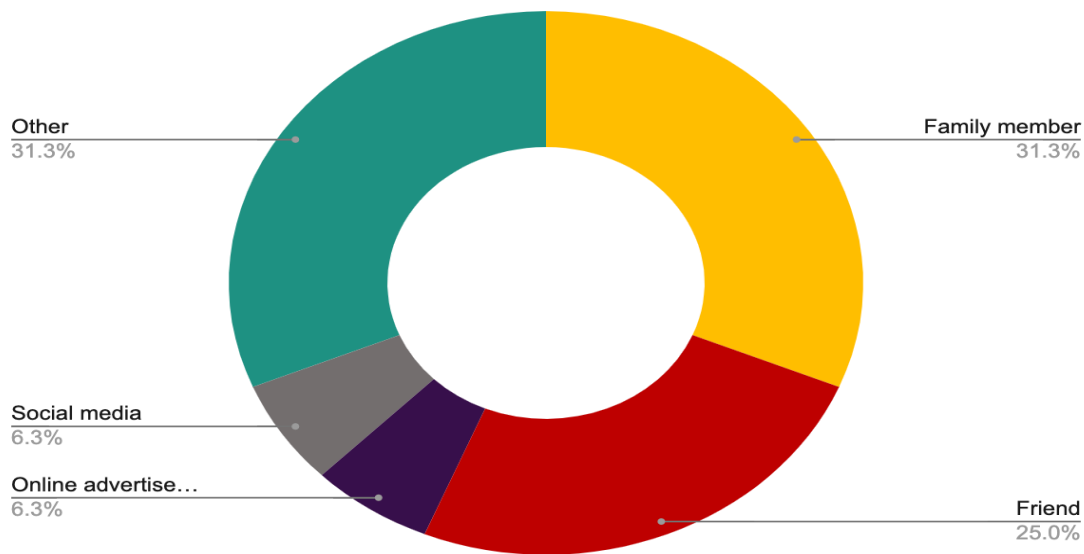
The quantitative measures in this evaluation were envisioned to capture the impact and effectiveness of the CT SHIP Project from the student perspective. A paper and online survey were created by evaluators to capture these data. However, this survey was distributed in Year 2. Specifically, the survey was deployed within Certified Nursing Assistant programs that began in September 2022 and concluded by December 2023. Overall, the survey was completed by 16 students, for a total response rate of 17.8%.

The 16 students who participated in the survey represented three of the five consortium colleges, namely TCC (n = 10), GCC (n = 4), and HCC (n = 2). Most respondents (n = 11) were still enrolled in the program at the time of survey participation, with five having already completed. In terms of racial background, most students identified as Hispanic/Latino (n = 5), followed by Black/African American (n = 4), White (n = 3), and Asian (n = 1). Only one student identified as male; the 12 others reported being female. Students' age ranged from 18–54 ($M = 30.4$). (Note: only 13 of the 16 student respondents provided demographic information contributing to the difference in n .)

In subsequent years the survey link was posted to the program blackboard site where students were passively encouraged to complete it. No students chose to complete a survey in Year 3, and only 1 completion was recorded for year 4. Data analysis presented in this report are based on results from Year 2's survey deployment.

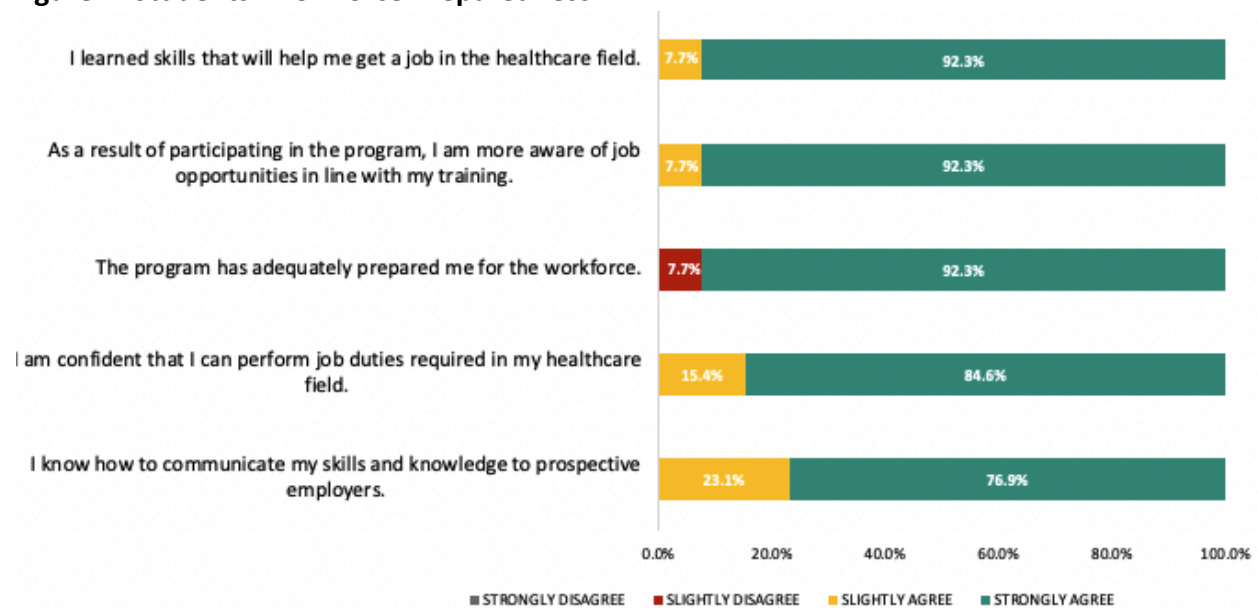
Program Recruitment Strategies. More than half of Year 2 students surveyed identified a family member or a friend as the reason they became aware of the program (56.3%). When asked how they learned about their program, none of the student respondents indicated that the American Job Center, a co-worker, or a current employer contributed to their awareness. In addition to the modes already described, students who responded "other" shared learning about their program from the detective in their police program, a marine corps recruiter, the Family Center, and a Google search. See Figure 6 for sources of awareness identified by student respondents (n = 16); note that respondents could select all sources that applied.

Figure 6: Sources of Program Awareness Identified by Students



Student workforce outcomes. Year 2 student survey respondents provided insight into the value of their training in terms of workforce preparation. Students were asked to share their awareness of and preparedness for employment within their field of study. Overwhelmingly, students expressed agreement that they learned skills that will help them get a job in the healthcare field, they are more aware of job opportunities in line with their training, and they are confident that they can perform job duties required in their healthcare field. All but one respondent indicated that the program adequately prepared them for the workforce. See Figure 7 for specifics relating to students' sense of workforce preparation.

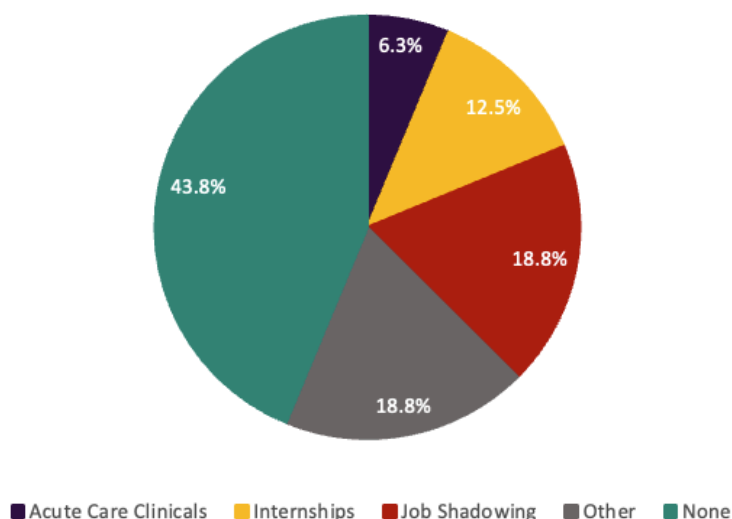
Figure 7: Students' Workforce Preparedness



Most students (n = 7) indicated that they had not yet participated in professional experiences outside of the classroom that were offered or facilitated by the program (i.e., externships, job shadowing, internships, apprenticeships, or acute care clinicals at a hospital). Factors that contributed to students not participating in professional experiences included not having the time (n = 3), being unaware of opportunities for professional engagement (n = 2), and their program not offering such experiences.

Of those who did take part in professional experiences, engagements included job shadowing (n = 3), internships (n = 2) and acute care clinicals at a hospital (n = 1). Three students shared that they participated in other experiences not listed, namely a clinical at a facility providing residential and nursing care to seniors, homecare and personal care assistant work, or work at a nursing home (see Figure 8).

Figure 8: Students' Participation in Professional Experiences



Regarding credentials, one third of students (n = 5) reported having taken and passed the exam required to receive an industry-recognized credential, with another one third reporting that they have not yet taken the exam but plan to in the near future. Three students have not taken an exam; they shared that the reason is because they are still enrolled. There were two students who were unsure whether they've taken or passed an exam required for an industry credential.

In terms of employment status, 10 students are currently employed. Among these students, three are working in a healthcare position as a result of their CT SHIP training, including at Summit of Plantsville and Norwalk Hospital. Two of these three students were already working at their current place of employment prior to enrolling in their program, with the other landing their position after program engagement. Of the three students not currently employed, one is aware of job opportunities available to them in healthcare while two are not. Of note, just five

student survey respondents had already completed their program at the time of survey deployment, which could help to explain employment outcomes to date. For example, one student indicated that they aren't working because they are still enrolled, and another shared that they are employed in retail.

Barriers to Student Academic and Career Success. Year 2 student survey respondents were asked to share challenges faced that might serve as barriers to completion. Of those who responded (n = 9), four reported not facing any challenges to completion. Two students noted challenges related to navigating computers in the program, with one expressing “anxiety” when needing to use the laptop. One student described communication as a major deterrent, wherein they had difficulty communicating with people; however, they noted that they have continued to practice this skill and have since gotten better. A final student identified “taking in a lot of information in a short window of time” as being challenging.

Student survey respondents were asked to offer feedback regarding potential opportunities for program improvement. Several students felt that there weren't any needs for improvement, with one indicating being “satisfied” so far and another sharing that this is an “amazing program to start your career.” Other students identified enhancements related to frequency and nature of offerings. Specifically, one student stated that some students could benefit from additional help and hands-on engagements: they recommended increasing how often they came in for face-to-face learning. Another student expressed a similar sentiment, sharing that they would have liked for clinicals to be increased to about three times per day instead of twice as currently offered.

Other student support findings. All Year 2 students who completed the survey agreed that the program offered classes at a time that was convenient for them, and they were satisfied with the length of the program. Student open-ended responses to “What contributed to your success in your program?” provided insight into an additional source of student support: classroom instructors. Three of nine responses were “My extremely helpful professor,” “My instructors,” and “Teachers [taught] me very well [and] prepared to work in health care.” Furthermore, all survey respondents agreed that their instructor encouraged them to do their best work and that if they did not understand a concept, they could ask their instructor for help. Finally, all survey respondents agreed that their clinical experiences offered valuable hands-on learning and that they had access to all the resources needed to be successful in their programs.

Evaluation Questions

HEI's evaluation consisted of two major components—examination of process (implementation) and assessment of impact (outcomes). Specifically, the external evaluation served to examine the following:

- fidelity of CT SHIP implementation
- efficacy of capacity-building strategies
- realization of student, institutional, and workforce outcomes

Integral to this examination was an assessment of training development, virtual delivery capabilities, healthcare sector partnership formation, workforce alignment, and credential and employment outcomes. Impacts in the form of institutional transformations to processes, structures, and systems were expected to follow from CT SHIP initiatives, including strengthened capacities, expanded capabilities, sustained efforts, and scaled approaches. Progress toward and/or realization of these systems-level impacts were examined as part of this assessment.

Summative understandings are presented below, organized by the evaluation questions, which detail the effectiveness of the project in terms of achieving its goals and scaling and sustaining programmatic capacity.

EQ 1: To what extent did CT SHIP complete grant activities as outlined in the project work plan?

CT SHIP embarked on an ambitious plan to expand healthcare training opportunities across Connecticut, ultimately completing—and often surpassing—its outlined grant activities. A primary achievement was the launch of accelerated training models, especially within Certified Nursing Assistant (CNA) programs. Traditionally, these programs took 14 weeks to complete, but with CT SHIP’s intervention, students could now finish in just seven weeks. This innovation provided a critical pipeline of trained workers to meet the healthcare sector’s growing demand, particularly post-COVID-19. This shift to accelerated training proved highly successful, increasing student interest and accessibility across consortium colleges.

By the grant’s conclusion, CT SHIP met or exceeded the majority of its target outputs:

- **Student Enrollment:** The program enrolled 2,612 students, comfortably exceeding its target of 2,200 by 18.7%
- **Employer Partnerships:** CT SHIP secured commitments from 58 employers, surpassing the target of 50 by 16%
- **SNAP E&T Participation:** The grant exceeded its target of 400 participants, achieving a total of 664 (166% of the goal).

However, some targets fell short:

- **Work-based Learning (WBL) Participation:** CT SHIP achieved 350 participants reaching 75% of its goal of 400.
- **Individual Training Accounts (ITAs):** The program supported 299 participants with ITAs, 74.7% of the target of 400.

In addition to these outcomes, the program equipped consortium campuses with vital resources, from hospital beds and mannequins to laptops and washers/dryers for CNA programs. These resources enabled each campus to enhance their healthcare training infrastructure and hands-on student learning experiences. Recognizing the increasing

importance of digital literacy in healthcare, CT SHIP also developed an assessment tool to help students build necessary digital skills, such as proficiency in Microsoft Excel and Blackboard. Although this digital literacy initiative experienced some delays, it is on track for full completion.

CT SHIP's accomplishments in enrollment, resource provisioning, and employer engagement demonstrate its adherence to its work plan, with most outputs meeting or exceeding expectations. The program's innovation in accelerated learning and targeted investments have positioned Connecticut's consortium colleges to address both current and future workforce demands effectively.

EQ 2: To what extent do CT SHIP capacity-building strategies result in increased credential attainment, employment placement and advancement, sector partnership formation, and workforce alignment?

CT SHIP's capacity-building strategies were instrumental in driving positive outcomes across the community college consortium, employer engagement, and workforce alignment while also fostering strong sector partnerships. By offering flexible, accelerated courses, CT SHIP opened doors to healthcare training for a broader student base, including many from low-income backgrounds. The accessibility of these programs, supported by grant funding, allowed students to pursue credentials they might not have otherwise attained. Program Leaders across campuses reported high completion rates in certifications, with many students using their credentials as a springboard for further studies, including advanced training in healthcare fields such as surgical technology and nursing.

In terms of employment placement and advancement, CT SHIP worked closely with local healthcare employers, facilitating hiring pathways for graduates. For instance, some campuses hosted healthcare employers for on-campus interviews with students, leading to offers even before graduation. This direct employer-student engagement streamlined job placement, enabling graduates to enter the workforce swiftly. Sector partnerships also played a crucial role, with CT SHIP's regional alliances, providing valuable insights into industry needs and informing curriculum adjustments and micro-credential development. These partnerships helped CT SHIP to adapt its training programs to meet evolving workforce demands, ensuring graduates had the skills that employers sought most.

EQ 3: To what extent has CT SHIP strengthened the capacity of consortium colleges to provide demand-driven, accelerated training in healthcare career pathways?

CT SHIP made significant strides in strengthening the capacity of Connecticut's consortium colleges, equipping them to deliver demand-driven, accelerated training in healthcare. The accelerated training model, initially piloted in the CNA programs, has now become a sustainable approach across several campuses. By shortening training durations, CT SHIP enabled students to quickly complete their certifications and enter healthcare roles, addressing the state's workforce needs more effectively.

In addition to program adjustments, CT SHIP's grant allowed campuses to procure critical resources (such as healthcare lab equipment and additional staffing support) that increased class capacities and improved overall program quality. For instance, GCC now offers five CNA classes per semester, a marked increase that directly responds to local workforce demands. The program's success and popularity have created a structure that campuses can sustain beyond the grant's end. Digital literacy resources and repositories of training materials will ensure that the campuses continue meeting healthcare sector needs with the most relevant and accessible training available. Additionally, micro-credentials serve as supplemental resources to these accelerated programs, providing students with increased skills and knowledge on specific topics, further enhancing their readiness for the workforce.

Lessons Learned and Recommendations

The CT SHIP program has achieved significant progress in its mission to enhance workforce readiness in healthcare. This section highlights both challenges and successes encountered during the implementation of key program activities, outlines lessons learned, and provides strategic recommendations to support long-term sustainability once grant funding concludes.

Program Successes and Challenges in Implementation

CT SHIP made considerable strides in achieving and surpassing critical program targets. For example, CT SHIP exceeded its enrollment goal by enrolling 2,612 participants, a remarkable accomplishment that demonstrates the appeal and reach of its accelerated healthcare programs. Additionally, the program successfully fostered workforce partnerships across Connecticut, surpassing its initial goal and solidifying relationships that facilitated job placements and informed program design.

A particularly notable accomplishment involved the development and deployment of micro-credentials. These targeted credentials were crafted with direct input from employers, ensuring alignment with the competencies most in demand across healthcare settings. Employers actively participated in developing each credential, contributing to curriculum design, skill selection, and credential marketing, thus enhancing the relevance and utility of these credentials for job-seekers and hiring organizations alike.

Despite these achievements, CT SHIP faced challenges common to large, collaborative programs. Notably, the implementation of a digital literacy assessment tool was delayed. Initially envisioned as a streamlined resource to enhance students' digital skills, the assessment tool's launch was hindered by coordination issues with IT departments across partner institutions. Although the digital assessment tool has been implemented, and efforts have been and still are underway to spread awareness of this resource to all campuses, these delays underscore the challenges of synchronizing resources across complex educational institutions.

Another challenge stemmed from competing funding priorities, particularly between CT SHIP and the state's Career ConneCT initiative. Both initiatives share a focus on upskilling the workforce but are governed by separate funding streams and objectives, conflicts that at times

led to overlap and inhibited optimal collaboration with regional workforce boards. As a result, Program Leads had to navigate a dual focus that, while ultimately beneficial, limited the extent to which resources could be pooled effectively.

Lessons Learned

The experience and insights gained during the course of CT SHIP's implementation provide valuable lessons for future initiatives with similar objectives. First and foremost, the program highlighted the importance of structured, ongoing communication between colleges, workforce boards, and employer partners. This communication facilitated real-time alignment with industry needs, enabling CT SHIP to respond dynamically to shifts in healthcare workforce demands.

Additionally, CT SHIP found significant value in leveraging existing resources and best practices rather than developing new ones from scratch. By integrating readily available open education resources (OER) into the digital literacy component, the program avoided duplicative efforts and saved resources. Furthermore, collaboration with other grant-funded initiatives provided CT SHIP with insights into effective strategies, especially for micro-credential development and sector partnership-building.

Finally, the importance of documented, repeatable processes cannot be overstated. These processes for data collection, program documentation, and periodic reviews and check-ins ensured consistency across CT SHIP's activities, allowing for smoother implementation across consortium colleges. Such processes are critical not only for achieving short-term program goals but also for establishing a foundation that can be sustained post-grant.

Strategic Recommendations for Sustainability

To ensure that CT SHIP's progress continues to benefit Connecticut's healthcare sector, several key recommendations have been developed to guide program partners after the grant ends:

1. **Execute Sustainability Plan:** The CT SHIP project team developed a sustainability plan and shared it with the consortium campuses. Each participating campuses' sustainability plan serves as a guide for ongoing operations that will outline strategies for maintaining core program components, such as micro-credential offerings, digital literacy assessments, and accelerated learning pathways. The plan should specify staffing needs, curriculum development requirements, and potential funding sources to support ongoing activities.
2. **Establish a Permanent Role for the Micro-Credential Coordinator:** Recognizing the impact of micro-credentials in addressing skill gaps, a dedicated role should be created within CT State to oversee and maintain these credentials. A micro-credentials coordinator would ensure that credentials are updated as needed and could work to expand offerings to additional sectors such as IT and manufacturing, where demand for specialized, targeted training is equally high.
3. **Enhance Synergy with Workforce Development Boards:** CT SHIP's experience underscores the need for greater alignment and synergy with state workforce boards. By

establishing joint priorities and potentially blended funding models with initiatives like Career ConneCT, CT SHIP can maximize resource efficiency and reduce redundancies. This collaboration will also enhance the ability of program graduates to seamlessly transition into high-demand healthcare roles across the state.

4. **Promote Accessibility of the Digital Literacy Tool:** Now fully operational, the digital literacy tool should be integrated into an accessible online portal, with a promotional campaign across partner colleges to maximize its reach. This tool addresses a fundamental need in today's workforce, equipping students with essential digital skills critical for success in the healthcare workforce field.

Conclusion and Limitations

The Connecticut Statewide Healthcare Industry Pathways (CT SHIP) initiative has made strides in addressing the critical workforce needs and challenges through expanding healthcare training opportunities, accelerating program completion timelines, and creating stackable credential pathways. Through collaborative efforts among the consortium, employers, workforce boards, and state partners, the program met and exceeded many of its grant goals including student enrollment, employer partnerships, and the establishment of regional healthcare sector partnerships. CT SHIP's approaches, such as accelerated training models and digital badging initiatives, provided students with accessible, high-quality healthcare education aligned with industry needs.

CT SHIP's focus on infrastructure investments, employer-informed curriculum updates, and enhanced student support systems has built a strong foundation for long-term sustainability. By equipping consortium colleges with resources like specialized healthcare training tools, digital literacy platforms, and career support services via the grant created Healthcare Career Advisor, the program has ensured its capacity to meet the evolving needs of the growing healthcare workforce within the state. Simultaneously, the program has faced many challenges. Once awarded, the Project Director role had yet to be filled—delaying the formal kick-off of the project, student completion had a high attrition rate during the first year due to the COVID-19 pandemic, there was high-turnover for the Grant Compliance Officer and the Healthcare Career Advisor roles—additionally the Project Director role had a change of personnel within the last eight months of the grant. However, its strategic adaptations and robust partnerships mitigated many of these issues. CT SHIP's achievements have positioned Connecticut's community colleges as leaders in healthcare workforce development, offering a replicable model for other regions seeking to address similar challenges.

Limitations

The evaluation of the CT SHIP initiative, while comprehensive, faced several limitations that should be acknowledged when interpreting the findings and results. These limitations primarily stem from challenges in data collection, participant feedback, and contextual constraints during the evaluation process:

1. **Inconsistent Data Collection and Limited Participation**

Although significant progress was documented, data collection efforts varied in quality and consistency throughout the grant period. While Year 2 student surveys provided valuable insights into participant experiences and outcomes, response rates declined sharply in subsequent years. For example, only 16 students completed the survey in Year 2 (17.8% rate of response), limiting the ability to apply more detailed analytical procedures, such as disaggregation by institutional or student demographics.

Additionally, low employer and Workforce Development Board (WBD) partner participation posed challenges in gathering comprehensive data. Certain data points, such as detailed work-based learning (WBL) participation metrics and digital literacy assessment usage, were incomplete or unavailable for the final grant year report. Similarly, employer feedback on micro-credential implementation and workforce readiness was limited, further constraining the evaluation's ability to assess these areas in depth. Despite efforts to distribute surveys through multiple channels, only one student survey response was recorded in Year 4, underscoring the need for increased engagement to enhance data quality and comprehensiveness.

2. Reliance on Self-Reported Data

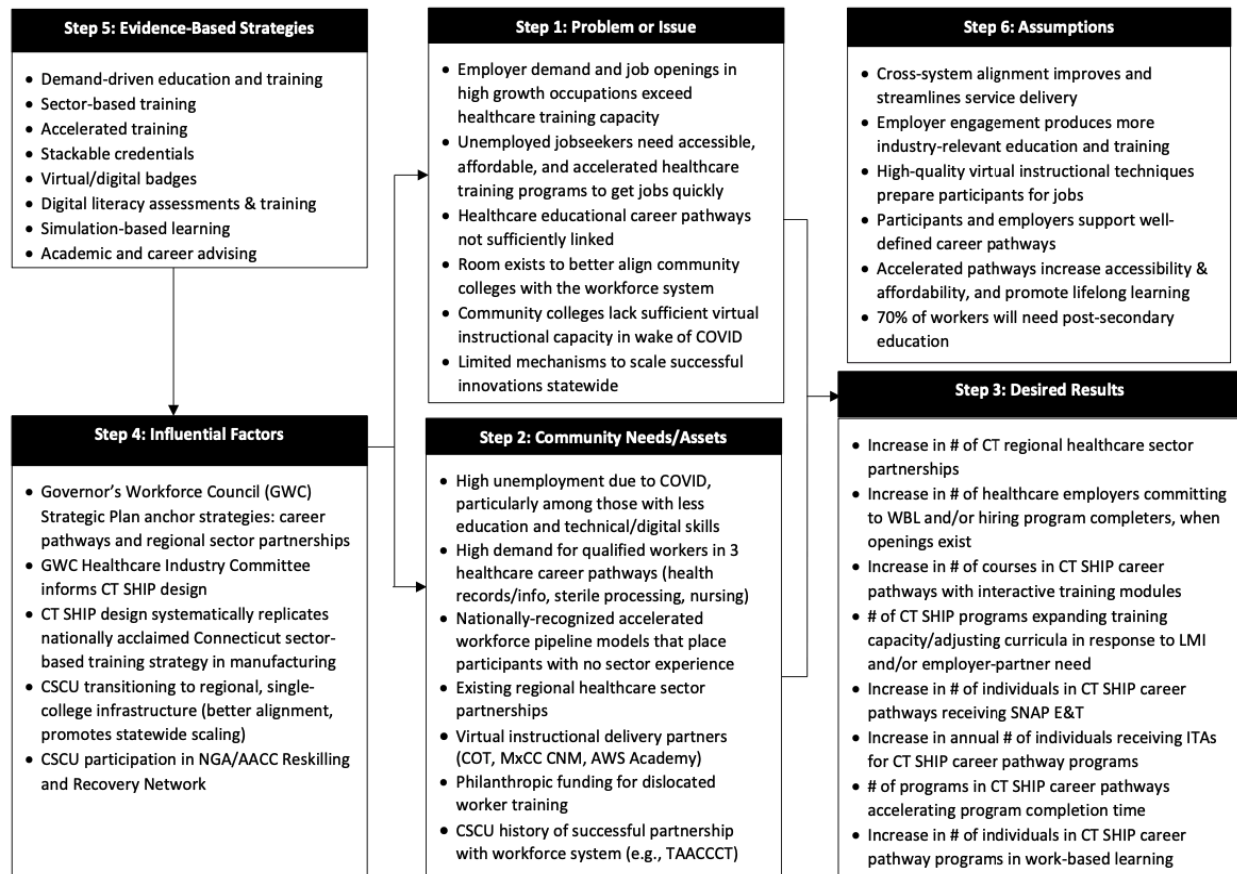
Much of the qualitative data collected through interviews or focus groups relied on self-reported insights from the project team and program leads. While their perspectives are valuable, they are inherently subjective and may not fully capture the breadth of experiences or outcomes across all stakeholders.

3. Impact of Personnel Turnover on Evaluation Efforts

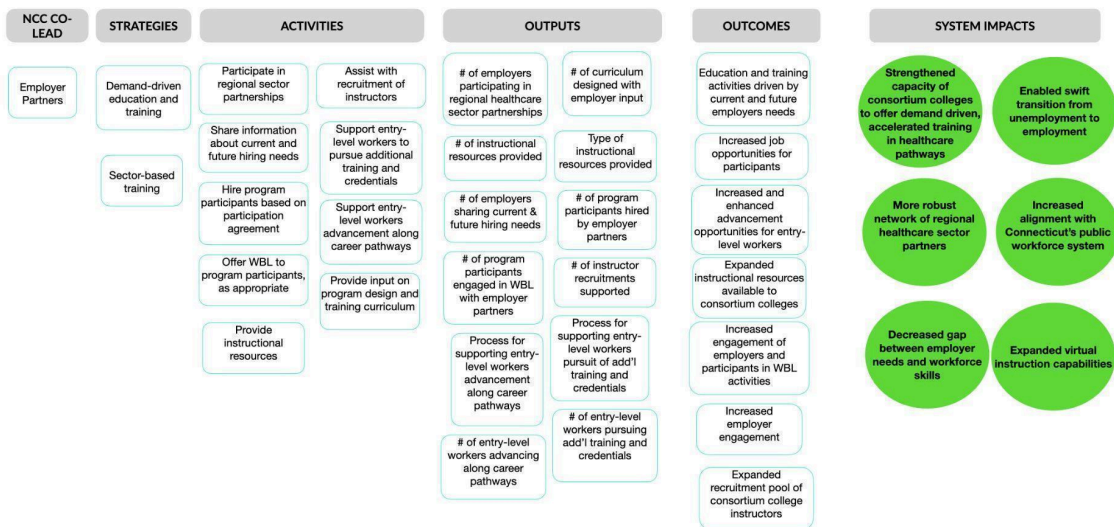
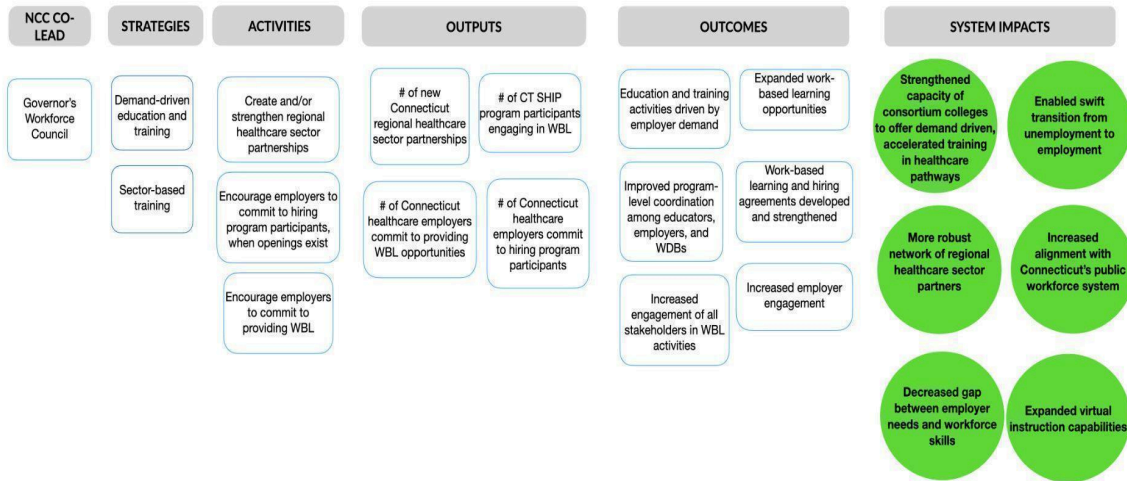
High turnover in key grant roles—namely the Healthcare Career Advisor, Grant Compliance Officer, and Project Director—posed challenges to the evaluation process. The Healthcare Career Advisor's turnover impacted efforts to promote student survey participation, resulting in low response rates in Years 3 and 4. Similarly, the Grant Compliance Officer's transitions during Year 3 disrupted the alignment and consistency of critical data on enrollment, acceleration of programs, ITAs, and SNAP E&T participation, complicating evaluation efforts. The departure of the Project Director in April 2024, eight months before the grant's end, meant the project lost a key leader with deep institutional knowledge at a critical time for finalizing grant activities and outcomes. At the time of this writing these three key grant roles are currently filled, ensuring the collection of accurate and comprehensive data as best as possible. However, without complete knowledge of grant activities and efforts in previous years, this challenge complicated the evaluation process and required additional effort to reconcile discrepancies in data across the five participating campuses.

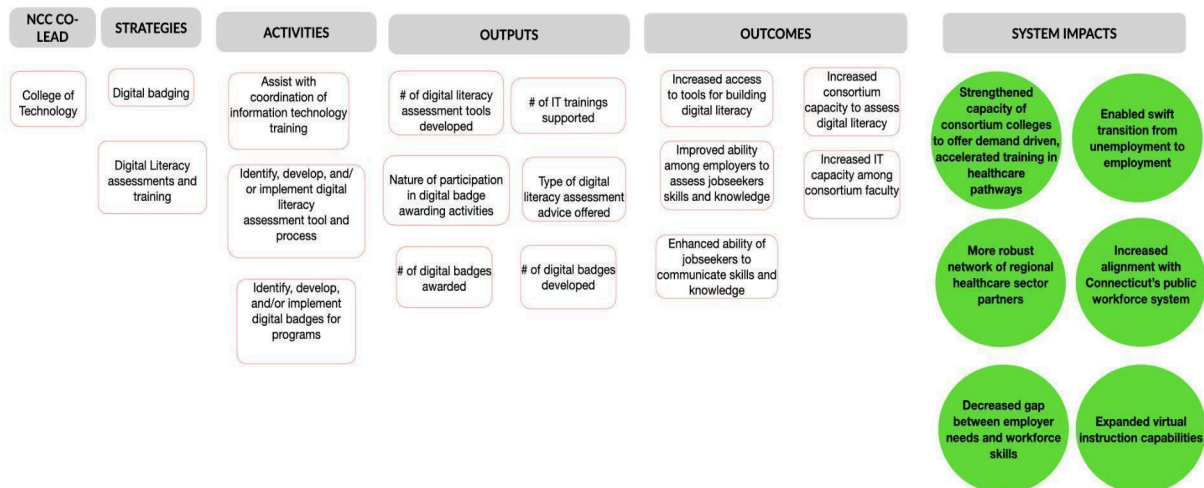
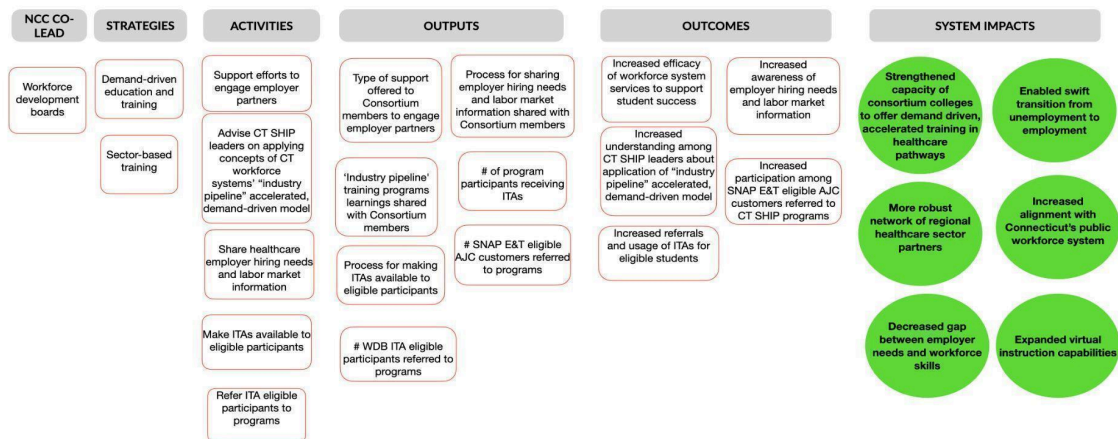
While not prohibitive to meaningful, formative program learning, these limitation implications are important to consider during the review of this final summative report.

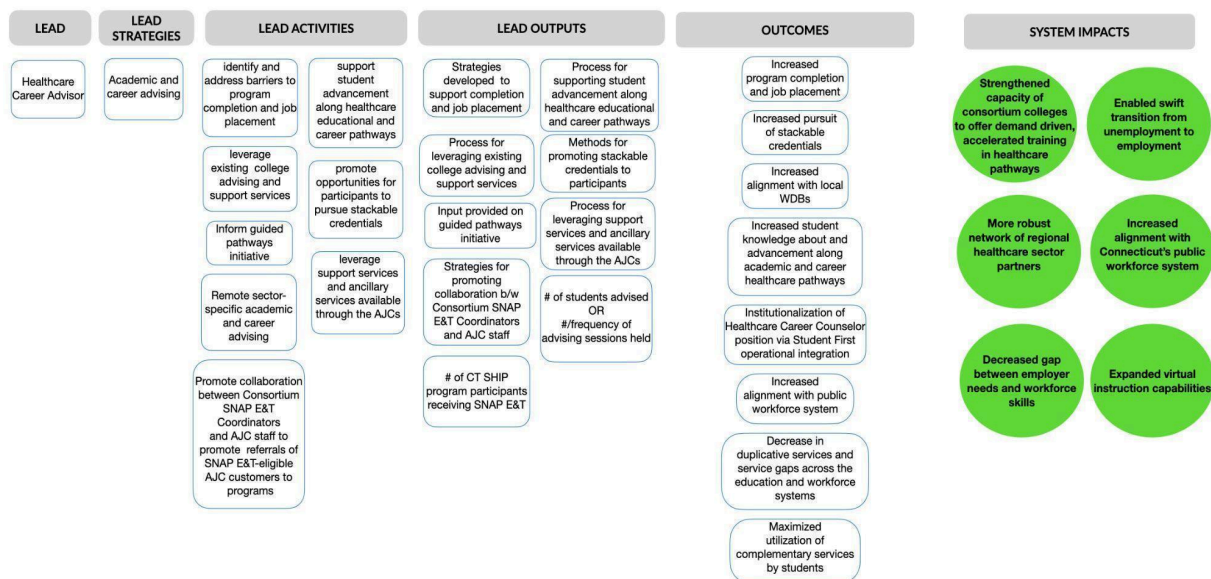
Appendix A - CT SHIP Original Theory of Change/Logic Model



Appendix B - Logic Model







Appendix C - Document Request Table

Activity	Milestone	Potential Documentation
400 students participate in CT SHIP career pathway education and training programs	06/30/2022	<ul style="list-style-type: none"> • Student Enrollment Data disaggregated by quarter and program • Student Completion Data disaggregated by quarter and program • Roster (or list) of individual students
5 individual CT SHIP career pathways programs accelerate program completion time	06/30/2022	<ul style="list-style-type: none"> • List of programs that have accelerated completion times, including details of original time and new, accelerated time • PDF of emails from colleges informing Doreen of acceleration
1 instructional video for CT SHIP Central Sterile Processing Tech education and training programs	06/30/2022	<ul style="list-style-type: none"> • Link to YouTube video
5 individual CT SHIP career pathways programs expand their annual capacity to train students or adjust curriculum	09/01/2022	<ul style="list-style-type: none"> • List of programs that have expanded capacity, including details of expansion • List of programs that have adjusted curriculum, including details of adjustments • PDF of email(s) from programs to Doreen stating that program has been expanded • PDF of email(s) from programs to Doreen stating that program curriculum has been adjusted
1 CT SHIP marketing and recruitment video	12/31/2022	<ul style="list-style-type: none"> • Link to Youtube Video(s)
20 healthcare employers sign on to participate in regional healthcare partnerships with work-based learning and/or hiring as an expectation of participation	12/31/2022	<ul style="list-style-type: none"> • One or more of the following that demonstrates employer agreement: <ul style="list-style-type: none"> • Letter of commitment from employers • PDF of email(s) detailing and confirming agreement
50 CT SHIP career pathway education and training program participants receive SNAP E&T	12/31/2022	<ul style="list-style-type: none"> • Roster (or list) of individual students receiving SNAP E&T
125 CT SHIP participants receive individual training accounts	12/31/2022	<ul style="list-style-type: none"> • Roster (or list) of individual students who receive Individual Training Accounts (ITAs)
150 CT SHIP career pathway education and training participants participate in WBL	12/31/2022	<ul style="list-style-type: none"> • Roster (or list) of individual students participating in WBL
35 CT SHIP career pathway participants complete AWS certification exams	12/31/2022	<ul style="list-style-type: none"> • Roster (or list) of individual students who completed AWS certification exam

3 new regional healthcare sector partnerships "certified" by the Governor's Workforce Council	06/30/2023	<ul style="list-style-type: none"> • PDF of email invitation to attend: • NW sector council meeting • Capital sector council meeting • SW sector council meeting
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Appendix D - Project Team Interview Protocol



CT SHIP Summative Interview Questions

Introductions

1. Please provide your name, your role as it relates to the project, and how long you have served in that role?

Grant Activities Completed

2. Can you provide an overview of the major grant-specified activities outlined in the work plan (WBL and hiring by 50 healthcare employers, animated training modules, career pathway programs expanded, etc.) that have been fully completed?
3. Were there any specific activities that were delayed or adjusted throughout the grant? What factors contributed to these changes?

Sector Partnership Formation

4. In what ways have the sector partnerships contributed to the overall success of the project, particularly in aligning training with workforce needs?

Consortium College's Capacity to Provide Accelerated Training

5. Are there any long-term changes you foresee in how these colleges deliver healthcare career pathway training?

Sustainability and Lessons Learned

6. What steps has CT SHIP taken to ensure the sustainability of its efforts after the grant ends?
7. Are there elements of the program that will continue without grant funding? If so, which ones and how will they be supported? [PD, PGA, PL]
8. What were the biggest lessons learned during the course of the project, both in terms of successes and challenges? [PGA, PL]

9. What advice would you give to similar future projects based on your experience with CT SHIP?

Overall Impact on Participants and Community

10. How has this grant impacted the participants and the broader community?
11. How has the local healthcare industry or community benefited from the increased availability of trained healthcare workers?

Strengths and Areas of Improvement of Project Model

12. Overall, what has been the greatest strength of the CT SHIP model?
 - a. What are some areas of improvement?

Appendix E - Program Lead Interview Questions

CT SHIP Program Lead Interview Questions

Introductions

1. Please provide your name, your role as it relates to the project, and how long you have served in that role.

Achievements and Milestones

2. What were the key achievements or milestones that your campus accomplished over the four years of the grant?
 - a. Were there any achievements that exceeded initial expectations?
3. Can you share any specific milestones that significantly impacted your priority population (e.g., healthcare students, sector partners)?

Capacity Building for Credential Attainment and Employment

4. Were there any strategies that stood out as being most effective in supporting participant success in obtaining credentials?

Workforce Alignment

5. How did you ensure that the training offered matched the evolving demands of the healthcare industry in your region?
6. Can you provide examples of how employer feedback was integrated into the design or modification of training programs?
7. How did the alignment between training programs and workforce needs evolve throughout the project?

Consortium College's Capacity to Provide Accelerated Training

8. How has your campus' capabilities evolved in delivering accelerated training over the grant period?
9. Are there any long-term changes you foresee in how your campus delivers healthcare career pathway training?

Sustainability and Lessons Learned

10. Are there elements of the program that will continue without grant funding? If so, which ones and how will they be supported?

11. What were the biggest lessons learned during the course of the project, both in terms of successes and challenges?

Overall Impact on Participants and Community

12. How has this grant impacted the participants and the broader community?
13. In what ways has this program directly impacted the lives and career trajectories of the participants?
14. How has the local healthcare industry or community benefited from the increased availability of trained healthcare workers?

Strengths and Areas of Improvement of Project Model

15. Overall, what has been the greatest strength of the CT SHIP model?
 - a. What are some areas of improvement?

Appendix F - Workforce Development Boards and Employer Partners

CT SHIP Workforce Development Board Partners Interview Questions

1. For the sake of the recording, would you please share your name and your role in CT SHIP?
2. How does your organization partner with [insert partner community college]?
3. Can you describe the process of sharing current & future hiring needs of partner employers with community colleges?
 - a. Potential probes: What have you observed about the usefulness of sharing this type of data?
 - b. Potential probe: How does sharing these data help?
4. What lessons learned from employers on implementing accelerated, demand driven programs are important?
 - a. What of these learnings, if any, have you shared with college partners?
5. How do you advertise the CT SHIP programs to eligible participants?
 - a. Can you describe how you make ITAs available to eligible participants?
6. What are some strengths of your partnership with [insert partner community college]?
7. How can your partnership with [insert partner community college] be improved?
8. Is there anything else you would like to share with me today?

CT SHIP Employer Partner Interview Questions

1. For the sake of the recording, would you please share your name and your role at your company?
2. How does your company support entry-level workers advance along career pathways?
3. How does your company support entry-level workers interested in pursuing additional training and credentials?
4. Could you describe how your company partners with [insert partner community college]?
 - a. Potential probes:
 - i. Does the partnership involve sharing current & future hiring needs?
 - ii. Does the partnership involve providing input on curriculum design?

5. What are some strengths of your partnership with [insert partner community college]?

6. How can your partnership with [insert partner community college] be improved?

Is there anything else you would like to share with me today?

Appendix G - Student Questionnaire

CT SHIP Student Survey

Higher Ed Insight, a Virginia based research firm, is evaluating the Connecticut Statewide Healthcare Industry Pathways Project (CT SHIP) project and is conducting a participant survey. This survey is about your experience in one of CT SHIP's healthcare education programs. Your participation in this survey is voluntary. You may refuse to take part in the research without penalty. This study is being coordinated with Doreen Forbes-Rogers, Project Director, Norwalk Community College. If you have any questions about this study, you can contact any of the individuals listed below for more details about the study. Thank you for your time!

Doreen Forbes-Rogers, MSPM

Norwalk Community College

Project Director

Statewide Healthcare Industry Pathways Project

DForbes-Rogers@ncc.commnet.edu

Donté McGuire

Higher Ed Insight

Director of Research and Evaluation

donte@higheredinsight.com

To answer:

1. Which healthcare program are you currently enrolled in?

Gateway Community College

- | | |
|--|--|
| <input type="radio"/> Central Sterile Processing Technician (CSPT) | <input type="radio"/> Surgical Technology |
| <input type="radio"/> Certified Nursing Assistant (CNA) | <input type="radio"/> Surgical Technology (Degree) |
| <input type="radio"/> Medical Office Assistant | |

Housatonic Community College

- | | |
|--|--|
| <input type="radio"/> Certified Nursing Assistant/Aide (CNA) | <input type="radio"/> Sterile Processing Technician (CSPT) |
| <input type="radio"/> Certified Professional Coder | <input type="radio"/> Surgical Technology |
| <input type="radio"/> Patient Care Technician (PCT) | |

Middlesex Community College

- ☐ Central Sterile Processing Technician (CSPT)
- ☐ Health Information Management - Data management degree
- ☐ Certified Nursing Assistant (CNA)
- ☐ Medical Billing and Coding
- ☐ Clinical Coding Certificate
- ☐ Patient Care Technician (PCT)

Norwalk Community College

- ☐ Certified Nursing Assistant (CNA)

Tunxis Community College

- ☐ Central Sterile Processing Technician (CSPT)
- ☐ Certified Nursing Assistant (CNA)

2. How did you learn about your program? (select all that apply)

- ☐ Family member
- ☐ Current employer
- ☐ Social media
- ☐ Friend
- ☐ Online advertisement
- ☐ American Job Center
- ☐ Co-worker
- ☐ Other, please specify: _____

3. Please rate your level of agreement with the following statements regarding your experience in your program.

	Strongly disagree	Slightly disagree	Slightly agree	Strongly agree
The program offered classes at a time that was convenient for me.	①	②	③	④
I was satisfied with the length of the program.	①	②	③	④
My instructor encouraged me to do my best work.	①	②	③	④
If I did not understand a concept, I could ask my instructor for help.	①	②	③	④
The clinical experiences offered valuable hands-on learning.	①	②	③	④
I am aware of other education programs I can begin in the future to advance my healthcare career.	①	②	③	④
I plan to enroll in at least one more program to advance my healthcare career in the future	①	②	③	④
I had access to all the resources I needed to be successful in the program.	①	②	③	④

4. Have you taken *and* passed the exam to receive your industry credential (required)?

- ☐ Yes
- ☐ No, I did not take the exam
- ☐ No, I took the exam but did not pass
- ☐ No, but I plan to take the exam in the future
- ☐ Unsure

5. If you did not take the exam, what contributed to you not taking the exam?

6. Please rate your level of agreement with the following statements.	Strongly disagree	Slightly disagree	Slightly agree	Strongly agree
I learned skills that will help me get a job in the healthcare field.	①	②	③	④
As a result of participating in the program, I am more aware of job opportunities in line with my training.	①	②	③	④
The program has adequately prepared me for the workforce.	①	②	③	④
I am confident that I can perform job duties required in my healthcare field.	①	②	③	④
I know how to communicate my skills and knowledge to prospective employers.	①	②	③	④

7. Which of the following professional experiences outside of the classroom have you participated in? (select all that apply)

- ☐ Externship
- ☐ Job shadowing
- ☐ Internship
- ☐ Apprenticeship
- ☐ Acute care clinical (at a hospital)
- ☐ None of the above
- ☐ Other, please specify:

8. If you chose “none of the above” in Question 7, what contributed to you not participating in any professional experiences outside of the classroom?

- ☐ I was unaware that that the experiences on the previous page (e.g., externship, job shadowing, internship) were available to me
- ☐ The program did not offer the experiences on the previous page (e.g., externship, job shadowing, internship)
- ☐ I did not have the time to participate in any of the experiences on the previous page (e.g., externship, job shadowing, internship)
- ☐ I applied but was not accepted to participate in any of the experiences on the previous page (e.g., externship, job shadowing, internship)
- ☐ Other, please specify: _____

9. What is your current employment status?

- ☐ Employed
- ☐ Unemployed

10. If you are currently unemployed, are you aware of available job opportunities in healthcare?

- ☐ Yes
- ☐ No
- ☐ Unsure

Instructions

If you are currently employed, please answer questions 11-13.

If you are currently unemployed, please skip to question 14.

11. Did your current education program help you gain employment?

- ☐ Yes
- ☐ No
- ☐ Unsure

12. What is the name of your employer?

13. Which of the following represents your employment history with your current employer?

- ☐ I was working at my current place of employment prior to enrolling in the program.
- ☐ I started working at my current place of employment while I attended the program.
- ☐ I started working at my current place of employment after completing the program.

14. Did you meet or speak with the healthcare career advisor (Joyce Liljedahl)?

- a. Yes
- b. No
- c. Unsure

Instructions

If you answered "yes" to question 14, please answer questions 15-16.

If you answered "no" to question 14, please skip to question 17.

15. How valuable was the healthcare career advisor to you?

- a. Not valuable at all (1)
- b. A little valuable (2)
- c. Valuable (3)
- d. Extremely valuable (4)

16. Please explain the reasons for your answer to question 15

17. Which best describes your gender identity?

- ☐ Female ☐ Male ☐ Non-binary
- ☐ I prefer to self-identify: ☐ I prefer not to answer

18. What is your race/ethnicity? (Select all that apply)

- ☐ American Indian/Alaska Native ☐ Asian ☐ Black/African American
- ☐ Hispanic/Latino ☐ Native Hawaiian/Other Pacific Islander ☐ White
- ☐ Other, please specify:
- ☐ I prefer not to answer

19. Did you receive a scholarship through your American Job Center to enroll in your program?

- ☐ Yes ☐ No ☐ Unsure

20. Would you be open to the healthcare career advisor contacting you in the future to share job opportunities or other career resources?

- ☐ Yes ☐ No

21. Would you be open to the healthcare career advisor contacting you in the future to learn about your career progress?

☐ Yes

☐ No

22. If you answered yes to questions 20 or 21 please share your contact information with us

Phone Number:

Email Address:

23. What contributed to your success in your program?

24. What challenges, if any, did you face while completing the program?

25. What would you say is the best thing about the program?

26. If you could improve something about the program, what would it be?

27. Is there anything else you would like to share with us about your program experience in the program?

Appendix H - Program Lead Survey



CT SHIP Program Lead Survey Questions

1. How confident are you that students completing your programs are well-prepared for entry-level positions in their field?
 - a. Very confident
 - b. Fairly confident
 - c. Somewhat confident
 - d. Slightly confident
 - e. Not at all confident
 - f. Not sure
2. In your opinion, do students possess the soft skills (e.g., communication, teamwork, problem-solving) Necessary for workplace success?
 - a. Strongly agree
 - b. Agree
 - c. Neutral
 - d. Disagree
 - e. Strongly disagree
 - f. Not sure
3. To what extent, do you believe the accelerated curriculum equips students with practical skills and knowledge that align with industry standards?
 - a. Completely aligned
 - b. Mostly aligned
 - c. Somewhat aligned
 - d. Minimally aligned
 - e. Not aligned at all
 - f. Not sure
4. How well do you think employers view the technical skills of students from this program?
 - a. Extremely well
 - b. Very well
 - c. Somewhat well

- d. Not very well
 - e. Not well at all
 - f. Not sure/no feedback received
5. In your view do employers generally regard completers from this program as well prepared for their roles?
- a. Strongly agree
 - b. Agree
 - c. Neutral
 - d. Disagree
 - e. Strongly disagree
 - f. Not sure
6. Based on feedback, do employers believe the program addresses the key skills and knowledge they seek in new hires?
- a. Strongly agree
 - b. Agree
 - c. Neutral
 - d. Disagree
 - e. Strongly disagree
 - f. Not sure/ no feedback received
7. How effective do you feel the program is at incorporating current industry trends and technologies?
- a. Very effective
 - b. Affective
 - c. Somewhat effective
 - d. Minimally effective
 - e. Not at all effective
 - f. Not sure
8. To what degree do you think the program's content and structure are of high quality and aligned with workforce demands?
- a. Completely
 - b. Mostly
 - c. Somewhat
 - d. Minimally
 - e. Not at all
 - f. Not sure
9. How satisfied are you with the support and resources provided by the program to help students succeed post-graduation?
- a. Very satisfied
 - b. Satisfied

- c. Neutral
- d. Dissatisfied
- e. Strongly dissatisfied
- f. Not sure

Appendix I - Program Outcomes by Institution and Year

Program data were reported to evaluators after the end of each quarter and compiled into a spreadsheet for analysis using crosstabulation. Tables in this section represent summaries of each variable by quarter and year, across all five program sites.

Table 1. All Program Sites

Year	Quarter	Enrollment	Completed	SNAP E&T	ITAs	WBL
Grand Total	All	2,612	949	664	299	350
2024 Total	All	798	258	233	62	124
2024	Q1	120	40	26	17	32
	Q2	159	101	56	4	70
	Q3	247	36	72	23	0
	Q4	272	76	79	18	22
2023 Total	All	696	159	166	109	104
2023	Q1	225	93	64	23	66
	Q2	136	22	28	27	20
	Q3	239	20	59	55	15
	Q4	96	24	15	4	3
2022 Total	All	720	299	174	74	72
2022	Q1	277	101	56	47	0
	Q2	137	69	32	18	36
	Q3	221	69	57	7	21
	Q4	85	60	29	2	15
2021 Total	All	398	233	91	54	50
2021	Q1	61	9	1	0	0
	Q2	49	18	13	5	0
	Q3	220	145	59	32	39
	Q4	68	61	18	17	11

Table 2. GCC

Year	Quarter	Enrollment	Completed	SNAP E&T	ITAs	WBL
GCC Total	All	652	240	309	20	51
2024 Total	All	267	95	233	2	32
2024	Q1	13	11	10	0	0
	Q2	102	71	43	1	32
	Q3	78	8	41	1	0
	Q4	74	0	27	0	0
2023 Total	All	176	50	103	14	0
2023	Q1	55	15	35	3	0
	Q2	18	0	11	0	0
	Q3	74	20	43	8	0
	Q4	29	15	14	3	0
2022 Total	All	143	67	64	3	0
2022	Q1	40	11	10	0	0
	Q2	18	7	10	1	0
	Q3	63	30	31	2	0
	Q4	22	19	13	0	0
2021 Total	All	66	28	21	1	19
2021	Q2	5	0	0	0	0
	Q3	38	10	12	0	10
	Q4	23	18	9	1	9

Table 3. NCC

Year	Quarter	Enrollment	Completed	SNAP E&T	ITAs	WBL
NCC Total	All	232	121	29	6	73
2024 Total	All	66	37	9	5	37
2024	Q1	19	15	1	4	19
	Q2	19	16	2	1	18
	Q3	18	0	3	0	0
	Q4	10	6	3	0	0
2023 Total	All	64	25	7	1	36
2023	Q1	25	22	1	0	22
	Q2	14	0	1	0	11
	Q3	18	0	4	0	0
	Q4	7	3	1	1	3
2022 Total	All	64	38	8	0	0
2022	Q1	17	11	3	0	0
	Q2	20	11	2	0	0
	Q3	17	12	1	0	0
	Q4	10	4	2	0	0
2021 Total	All	38	21	5	0	0
2021	Q2	11	9	3	0	0
	Q3	27	12	2	0	0

Table 4. NCC & GCC (Apprenticeship Program)

Year	Quarter	Enrollment	Completed	SNAP E&T	ITAs	WBL
2023	Q3	3	DNA	0	0	0

Table 5. HCC

Year	Quarter	Enrollment	Completed	SNAP E&T	ITAs	WBL
HCC Total	All	512	249	63	147	30
2024 Total	All	142	59	22	12	0
2024	Q1	10	0	0	0	0
	Q3	70	22	11	7	0
	Q4	62	37	11	5	0
2023 Total	All	116	38	10	58	0
2023	Q1	26	30	7	8	0
	Q2	33	8	3	21	0
	Q3	57	0	0	29	0
2022 Total	All	192	100	24	48	30
2022	Q1	93	45	9	41	0
	Q2	38	20	7	3	23
	Q3	37	13	6	4	7
	Q4	24	22	2	0	0
2021 Total	All	62	52	7	29	0
2021	Q3	42	34	6	20	0
	Q4	20	18	1	9	0

Note: No data were reported for Q2 2024, Q4 2023, or Q2 2021.

Table 6. MCC

Year	Quarter	Enrollment	Completed	SNAP E&T	ITAs	WBL
MCC Total	All	729	140	86	82	94
2024 Total	All	177	20	21	36	33
2024	Q1	45	14	2	6	13
	Q2	20	0	6	2	20
	Q3	61	6	7	15	0
	Q4	51	0	6	13	0
2023 Total	All	263	30	22	32	35
2023	Q1	76	10	6	8	11
	Q2	50	14	4	6	9
	Q3	77	0	12	18	15
	Q4	60	6	0	0	0
2022 Total	All	170	47	33	7	15
2022	Q1	78	22	15	1	0
	Q2	10	10	1	3	10
	Q3	63	0	10	1	0
	Q4	19	15	7	2	5
2021 Total	All	119	43	10	7	11
2021	Q1	52	0	0	0	0
	Q2	12	9	0	0	0
	Q3	45	24	10	4	9
	Q4	10	10	0	3	2

Table 7. TCC

Year	Quarter	Enrollment	Completed	SNAP E&T	ITAs	WBL
TCC Total	All	484	199	177	44	102
2024 Total	All	146	47	60	7	22
2024	Q1	33	0	13	7	0
	Q2	18	14	5	0	0
	Q3	20	0	10	0	0
	Q4	75	33	32	0	22
2023 Total	All	74	16	24	4	33
2023	Q1	43	16	15	4	33
	Q2	21	0	9	0	0
	Q3	10	0	0	0	0
2022 Total	All	151	47	45	16	27
2022	Q1	49	12	19	5	0
	Q2	51	21	12	11	3
	Q3	41	14	9	0	14
	Q4	10	0	5	0	10
2021 Total	All	113	89	48	17	20
2021	Q1	9	9	1	0	0
	Q2	21	0	10	5	0
	Q3	68	65	29	8	20
	Q4	15	15	8	4	0

Note: No Q4 data in 2023 were reported.

Appendix J - Program Lead Focus Group Survey Results (Y4)

Table 1. Entry-Level Career Preparedness

	Count
Very confident	4
Fairly confident	1
Somewhat confident	0
Slightly confident	0
Not at all confident	0
Not sure	0

(n = 5)

Q: How confident are you that students completing your programs are well-prepared for entry-level positions in their field?

Table 2. Soft Skill Attainment

	Count
Strongly agree	0
Agree	5
Neutral	0
Disagree	0
Strongly disagree	0
Not sure	0

(n = 5)

Q: In your opinion, do students possess the soft skills (e.g., communication, teamwork, problem-solving) Necessary for workplace success?

Table 3. Accelerated Curriculum Alignment

	Count
Completely aligned	0
Mostly aligned	4
Somewhat aligned	1
Minimally aligned	0
Not aligned at all	0
Not sure	0

(n = 5)

Q: To what extent, do you believe the accelerated curriculum equips students with practical skills and knowledge that align with industry standards?

Table 4. Employer Perspective on Student Attainment of Technical Skills

	Count
Extremely well	2
Very well	3
Somewhat well	0
Not very well	0
Not well at all	0
Not sure/no feedback received	0

(n = 5)

Q: How well do you think employers view the technical skills of students from this program?

Table 5. Employer Perspective on Student Preparedness

	Count
Strongly agree	1
Agree	4
Neutral	0
Disagree	0
Strongly disagree	0
Not sure	0

(n = 5)

Q: In your view do employers generally regard completers from this program as well prepared for their roles?

Table 6. Employer Perspective on Program Developing Skills and Knowledge

	Count
Strongly agree	0
Agree	5
Neutral	0
Disagree	0
Strongly disagree	0
Not sure/No feedback received	0

(n = 5)

Q: Based on feedback, do employers believe the program addresses the key skills and knowledge they seek in new hires?

Table 7. Incorporation of Industry Trends and Technologies

	Count
Very effective	3
Affective	2
Somewhat effective	0
Minimally effective	0
Not at all effective	0
Not sure	0

(n = 5)

Q: How effective do you feel the program is at incorporating current industry trends and technologies?

Table 8. Program Quality and Alignment to Workforce Demands

	Count
Completely	3
Mostly	2
Somewhat	0
Minimally	0
Not at all	0
Not sure	0

(n = 5)

Q: To what degree do you think the program's content and structure are of high quality and aligned with workforce demands?

Table 9. Satisfaction with Program Support and Resources for Students

	Count
Very satisfied	1
Satisfied	4
Neutral	0
Dissatisfied	0
Strongly dissatisfied	0
Not sure	0

(n = 5)

Q: How satisfied are you with the support and resources provided by the program to help students succeed post-graduation?