

## **Career and Technical Education:**

### **The Future of Delaware's Healthcare Workforce**

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## **Introduction**

As populations age, greater utilization of medical, dental, and behavioral health services place significant strain on healthcare systems. With the proportion of Delawareans aged 65 and older projected to grow 48.6% by 2050, state-led initiatives such as DIMER, DIDER, and the Delaware Health Care Provider Loan Repayment Program aim to train and retain Delawarean physicians and healthcare professionals.<sup>1,2</sup> In recent years, initiatives have also focused on the development of career and technical education (CTE) for middle and high school students. CTE programs currently exist in 41 of Delaware's 45 public high schools with the goal of providing meaningful work experience prior to entering the workforce or higher education.<sup>3</sup> In 2020-2021, 15,781 CTE students were enrolled, of which 14.1% were studying careers in health science.<sup>4</sup>

## **Curriculum**

Health science programs across Delaware prepare students for careers as dental assistants, medical assistants, physical therapy health aides, certified nursing assistants, and patient care assistants. At schools such as Sussex Tech High School, first-year students rotate through six technical areas before deciding what area to pursue. Between sophomore year and graduation, students attend their technical area every day, learning alongside the same group of classmates for the next three years.<sup>5</sup>

Dental assisting students, for example, spend their first year learning about dental anatomy, head and neck anatomy, and various oral diseases. Students practice taking dental impressions, pouring and trimming models, and creating whitening trays. In junior year, students prepare for the Dental Assisting National Board (DANB) Radiation Health and Safety (RHS) exam. Upon passing, students earn a state certificate as a Dental Radiation Technician. As seniors, students can substitute their last class period with work-based learning – a program that allows students to gain “hands-on training in job-related situations.” Sussex Tech has partnerships with dental practices throughout southern Delaware, and many of these practices offer paid positions during the school year that can lead to full-time employment during the summer.<sup>5</sup>

## **From a Student's Perspective**

As a graduate of Sussex Tech's Dental Services and Technologies program, the quality of education I received was exceptional. The classroom offered three fully-functional operatories, panoramic and periapical x-ray machines, a lab with four model trimmers, an autoclave, an ultrasonic, and various dental instruments. After listening to lectures and taking notes on textbook readings, students hone their clinical skills by practicing with one another. I remember when my classmates and I were learning how to take impressions sophomore year, I had to start over three times. While I felt incredibly awkward, I felt worse for my partner who, as the person I was practicing on, took the brunt of my learning curve. Fortunately, I didn't feel as bad in the

end because when it was my partner's turn, they had to restart a similar amount of times. This was one of my favorite aspects of being in a CTE program. Providing students with an interactive curriculum and classmates they've known since sophomore year allows students to learn in an environment where they aren't afraid to make mistakes and provide feedback to their peers.

After passing the RHS exam, students are prepared to begin seeking work experience as a dental assistant. Going into the summer of my senior year, I was determined to find a summer job where I could continue developing the skills I had learned over the past 2 two years. After a few weeks of applying to dental offices, I was offered a position as an oral surgery assistant. On the first day, the oral surgeon sat me down and expressed his expectations for me. I had to be willing to challenge myself, listen to my fellow assistants, and learn from each new experience. To this day, the culmination of everything I learned made that summer the most impactful experience of my life. I assisted with surgeries, provided pre/post-op instructions, and interacted with patients from around southern Delaware. As a sixteen-year old, the maturity and confidence I gained through serving patients prepared me for college and my various endeavors since then. While in college, I continued working as an oral surgery assistant for two more summers along with serving as a COVID-19 contact tracer for Delaware throughout the pandemic.

Gaining these experiences at a young age piqued my interest in public health. Through oral surgery, I was given the opportunity to work with patients from anywhere between two weeks to 98 years old. My understanding of how health inequities affect different patient populations greatly evolved, and through speaking with patients, I began learning about how a lack of transportation, familial support, and food insecurity can serve as barriers towards improved health. I also learned that while a healthcare professional needs to be able to treat a disease, they similarly need to understand how social determinants of health impact their patient's health. The importance of understanding the unique challenges that patients in certain communities face became especially evident throughout the pandemic. Developing a healthcare workforce consisting of individuals born and raised in Delaware not only improves employee retention but also ensures that our providers have a holistic understanding of the needs of the communities they serve.

## Planning Ahead

Studies have found that CTE provides various benefits ranging from reduced dropout rates to increased rates of postsecondary enrollment.<sup>6</sup> From personal experience, many of my classmates began healthcare careers following graduation while others with aspirations of becoming dentists, physicians, pharmacists, physician assistants, nurses, physical therapists, and occupational therapists, pursued higher education. In recent years, the number of CTE programs across Delaware have grown significantly; however, in order to provide students with tangible work experience that can shape their understanding of public health in their local communities, we need to continue developing programs that provide students with opportunities to gain direct exposure caring for patients.

Currently, initiatives such as *Apollo: Youth in Medicine*, a shadowing program that connects high school students primarily around northern Delaware with physician mentors, do exist, yet more can be done to create similar programs for other healthcare fields throughout the state.<sup>7</sup> For students who are able to acquire certifications through their CTE programs, Delaware can potentially partner with established healthcare practices to offer paid summer internships for

students going into the summer before their senior year of high school or first year of college. This program can be state subsidized to incentivize healthcare professionals to hire students from their local community. Developing these types of opportunities will provide students with opportunities beyond the typical seasonal employment that consists of working in retail or at the beach. Instead, they can gain meaningful experience working in healthcare and learning about public health in Delaware.

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## References

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