CAREER PATHWAYS in Public Health Laboratory Science

Meet the Intern

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Kayla Van

Host Laboratory: Virginia Department of General Services – Division of Consolidated Laboratory Services (DCLS)

Degree of Study: MPH, concentrating in epidemiology

Graduation: Spring 2027

School: Virginia Commonwealth University

Tell us about your educational background?

I graduated from Virginia Commonwealth University with a Bachelor of Science in psychology. I was also a pre-medical student and took several courses in biology, chemistry, and physics. However, I was more involved in undergraduate research during my last two years at the university. I studied healthcare disparities among Asian children with special health care needs and adolescents with intellectual and developmental disabilities. This experience sparked my interest in working with data and introduced me to health equity research. Currently, I'm a Master of Public Health student, concentrating in epidemiology, at the same university.

What brought you into laboratory science?

I always had an interest in science! I would try to replicate the experiments I did in elementary school back home in the kitchen, sneak outside to my backyard in the middle of the night to look at constellations, collect rocks at random places and bring them home to examine them, and read a book about herbs that can be used to treat certain conditions like coughs and headaches. It's been a huge part of my life growing up! Although my love for science never diminished, it evolved when I learned that it can be more than just bench work. It can also include other aspects, such as working with data or studying the human mind and behavior.



How did you hear about the Public Health Laboratory Internship Program?

I was searching for public health summer internships to apply to. I knew I wanted to get more out of my internship than just completing my degree requirement. I wanted to gain hands-on experience, challenge myself to learn new skills, and broaden my perspective in public health. One day, my friend and classmate mentioned an internship opportunity at his workplace. He's an environmental scientist at DCLS, one of the APHL's host laboratories in Virginia. Although I was initially hesitant to apply due to my limited background in science, I thought this was the perfect opportunity to challenge myself by stepping out of my comfort zone into a structured (and very real) laboratory environment and to explore public health through a different lens.

How did this internship match or exceed your expectations?

This internship exceeded my expectations in so many ways. Not only was I able to work on my project and gain hands-on experience throughout my internship, but I had opportunities to comfortably branch out and personally see the important work being done in clinical and environmental laboratories at DCLS. I was able to shadow and tour different laboratories. I also had the chance to have one-on-one conversations with lead scientists and group managers to learn more about their role in the laboratory and in public health. Furthermore, I got to sit in on biweekly wastewater and respiratory surveillance meetings between the laboratory and our state's health department. All of these activities allowed me to see behind the scenes of public health. Normally, I would see the "backend" where community outreach is being done with data that is already provided. However, I don't often get to see the "front-end" where the data comes from and how it becomes data. This internship enabled me to see and understand that process directly. As a current graduate student concentrating in epidemiology, this was one of the most valuable perspectives I gained while interning at DCLS.

Tell us what you learned from your mentor.

I learned many skills and acquired valuable insights from my mentor. The most important lesson I learned from her is about the importance of sample

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transport in the pre-analytical process. I didn't think about this often before this internship, but I learned it's necessary when trying to get a full picture and understand laboratory operations. This area is often overlooked, yet it's so significant because it allows laboratories to conduct quality testing and deliver accurate results that inform individuals and the public about their health. There are different types of errors that can occur in the pre-analytical process, including misidentification/labeling errors and sample processing (centrifuging, aliquoting, etc.). If samples arrive at a laboratory and are not in acceptable conditions, it can cause delays in diagnostic and surveillance testing, creating a domino effect that could eventually impact individual and community health. Preventing errors during the pre-analytical phase is critical to preventing further errors emerging upstream in laboratory testing and maintaining data integrity that guides active public health responses.

Tell us about your project assignments/laboratory roles.

My project analyzed data trends on clinical sample arrival temperatures at the laboratory. I applied various functions to merge, clean, and analyze a multi-year dataset of clinical sample temperatures taken by the Sample Support Services (SSS) group. Notable findings and actionable steps to reduce out-of-temperature samples would be described in a quality improvement report and a verbal presentation. I also initiated the design of new documents, such as a site report card and updating current sample packaging guidelines with pictures of correct and incorrect sample packaging methods, to support pre-analytical operations and continue enhancing sample quality and testing at the laboratory. Between working on these deliverables and learning more about DCLS, I took initiative to help the SSS group in any way I could. This can include delivering clinical and environmental samples for testing, sorting Bac-T samples, verifying expired water samples for disposal, and more.

How has your internship experience inspired you?

This internship inspired me to persist in my curiosity as a lifelong learner and to step out of my comfort zone more. I shouldn't be afraid to accept new opportunities, even if I think it wouldn't be a good fit for me. Who knows? Perhaps it's exactly where I needed to go! Being a part of this internship showed me what it's like to work in a fast-paced environment at a public health laboratory and to personally see the vital impact it has in our communities. Most importantly, my experience at DCLS solidified my dedication to strengthening my data analysis abilities and advancing public health.

What do you believe the next step will be in your career path?

After graduation, I hope to land a job in public health as an epidemiologist or pursue a PhD in epidemiology. However, I'm also open to exploring new opportunities and going wherever the winds of life take me.

How would you describe the internship to other students?

The APHL internship is a great way to explore the role of public health laboratories in our communities. It allows a chance to apply what you learned in class to real-life settings. It can be very hands-on and challenging at times, but I think it can be rewarding too! You're getting firsthand experience and seeing the impact that laboratory science has in a public health context. You're also building your skills, expanding your perspectives, working on a project that can create a positive impact, and making connections with other professionals in the field. It's not every day you get the chance to step into a public health laboratory and personally get hands-on experience!

Aside from the laboratory and the science, did you gain any other beneficial life experiences?

Besides everything I learned in laboratory science, I was able to improve my networking and communication skills. I consider myself to be an introvert and tend to feel uncomfortable talking about myself. By conversing and befriending others in the laboratory, I gradually realized the true value of networking. I created a personal goal throughout the internship to talk to at least one new person each day to practice my communication skills and build connections. All things considered, this internship definitely encouraged me to challenge myself in ways I didn't expect and cultivate the skills that'll help me in my life and career.