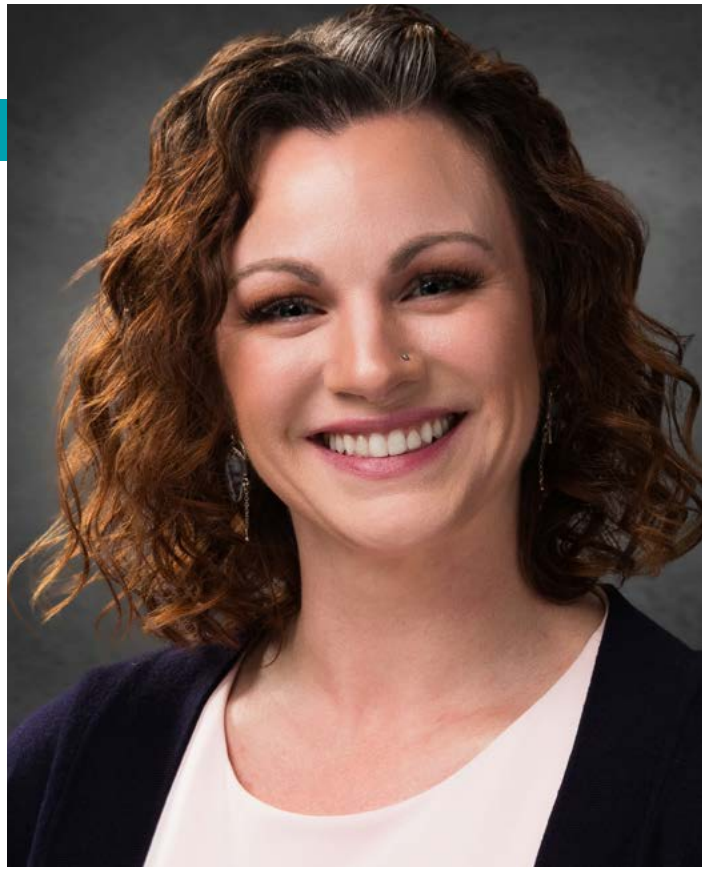
Meet the Fellow

Majie Foster, PhD

Host Lab: New York State Department of Health - Wadsworth Center

Degree:	Doctorate
Graduated:	2023
School:	Georgetown University



Service is a common theme among those who find their way into the public health and public health laboratory field. It is also a common theme with those who serve in the military.

For one fellow, that sense of service proved so strong that it crossed over from the military into the laboratory. Majie Foster, PhD, an infectious disease fellow at the New York State Department of Health - Wadsworth Center, originally sought to attend an Ivy League pre-med program. The terrorist attacks on September 11, 2001, brought about a change in her plans.

“That was in my senior year and watching the devastation from that and anticipating us being sent to war; I knew that there would be a lot of military patients needing medical services. So about two weeks after 9/11, I went into a recruiter’s office and joined (the Air Force) to go in as medical staff,” Foster said.

Her military service consisted of patient transport, mass decontamination and patient triage since there were no medical technician positions available at the time.

Foster was stationed stateside, transporting patients from Iraq and Afghanistan back to the United States. She said while transporting patients you might notice that there is a change in the sunlight and it’s very hot, but that’s about it.

“You’re so focused on moving hundreds of patients,” Foster said.

Foster served for five and a half years and was honorably discharged.

“What I enjoyed so much about being in the military was service and giving back to and supporting my community. I would volunteer several hours a week at an elementary school that was close to the base. And there were fifth graders that couldn’t read, and I would tutor those students for hours. By the end of the school year, they were reading at their grade level. That was very fulfilling for me to be able to give, to serve in any way that I could,” Foster said.

Transitioning to civilian life

After her discharge, Foster needed a change in her life and began working in the financial field for a few years. When she got the opportunity to go back to school, she knew it would be to study science.

“I couldn’t be a surgeon like I had intended. My hands are too shaky for it. So I went in as a pre-med student until I figured out what I wanted to do. I went into microbiology, and I fell in love. Once I got behind the microscope, that was it,” Foster said.

But her deep desire to serve did not diminish after the military. Foster’s focus became filling a need where public health was lacking. She wanted to help identify the cause of outbreaks.

She received her doctorate from Georgetown University in 2023 in microbiology and immunology.

‘Once I graduated, the job opportunities that I had weren’t what I was looking for. It was more research in medication development at large pharmaceutical companies. It wasn’t the service that I was looking for. I found a job at Washington State (Department of Health) that was a temporary six-month position,” Foster said.

Foster wanted to learn what public health was all about and get her foot in the door. So, she applied for the position.

“They said I was overqualified, so they weren’t going to hire me for the position,” Foster said.

But during the interview process, one of the interviewers asked whether Foster had looked into the APHL fellowship program. The program, a joint initiative with the Centers for Disease Control and Prevention, prepares scientists for careers in public health laboratories.

Meet the Fellow

Majie Foster, PhD

They suggested that the fellowship could solve the problem in which Foster was facing: She was overqualified for the positions she could apply for and underqualified for the opportunities at the PhD level, because of her not having a public health background.
"They are the ones who put me on the track to fill the gap from my microbiology degree and public health experience requirements," Foster said.
Foster applied, was accepted and began her fellowship at the Wadsworth Center, New York State Department of Health in the Bacterial Disease Antibiotic Resistance Laboratory Network, in January of 2024.
"I am currently writing a paper describing the Wadsworth Center algorithm for carbapenemase producing organism (CPOs - which are multi-drug-resistant pathogenic bacteria) screening. Our method allows us to report CPO screening results for the "Big 5" most common carbapenemase (genes), (bla_{KPC}, bla_{NDM}, bla_{VIM}, bla_{OXA-48}-like and bla_{IMP}) as well as emerging bla_{OXA-23}, -24/40 and -58 -like family variants within a 24-to-48-hour period," Foster said.
She added that this algorithm reduces reporting times from the more frequently utilized culture method by several days. During APHL 2024 annual conference, the Wadsworth algorithm appeared to be the fastest, which has spurred Foster to finish her paper to get the information to other laboratories.
"I am also working on modifying the current FDA-approved specimen collection/testing method for CPO screening (rectal swabs) to include an alternative specimen source (a composite swab from nasal, axillary and groin areas). If approved, I believe this alternative specimen source would increase the number of patients willing to submit samples and would better aid epidemiology to monitor CPO outbreaks and genetic inheritance," she said.

One Mission Accomplished

"I feel like I'm actively helping my community every day and that's when I said 'this is where I need to be. This is what I was looking for. This is why I spent that blood, sweat and tears to get to a place like this,'" Foster said.
Foster says that she is incredibly happy and fortunate that she was introduced to the fellowship program that allowed her to get where she has been trying to get for almost a decade.
Foster has had support during her first six months at Wadsworth Center from her mentor, Kim Musser.
"Anything that I feel that I need to round my experience out or I'm just interested in, she will get me in with people who can explain how they process samples or the protocol to use a particular machine. She'll get me access to resources that I need," Foster said.
Foster and Musser meet weekly to discuss conventions or articles that Musser thinks could help Foster in her research or the paper she is currently working on.
Foster has shared that willingness to help with other fellows at Wadsworth Center.
"I had a fellow at Wadsworth who was struggling with some of her assays. She was working on a gel trying to show that DNA was binding to a protein, and she couldn't understand why the protein wasn't getting into the gel," Foster said.
Because of Foster's experience, she was able to diagnose that the gel's percentage was too high.
"Now she's having no problems whatsoever, so my experience, (along) with my degree, has definitely been helpful," Foster said.
While she says she is happy with where she is right now, she did add that she wants to continue to serve.
She said she would feel fulfilled if she were able to utilize her knowledge and experience to play an active role in providing aid to those afflicted by an outbreak or helping disparaged communities within the United States or globally. Whether that aid comes in the form of leadership, administration, coordination, boots on the ground, specimen testing and analysis, and research to develop quarantine and remediation procedures, she is ready to embrace the challenge.
"The Air Force core values are still pillars in my life: Integrity first, service before self, and excellence in all we do." Foster said.