

Over 2000 CDC Laboratory Scientists work with some of the deadliest health threats in the world to protect Americans. This group is unique in that we are the primary source at CDC that tests and evaluates tissues with unexplained deaths. We can test for over two-hundred pathogens including viruses, bacteria, parasites, and fungi. Many times you have a sick patient and the doctor can only tell them "we don't know what's causing this infection." They send it to us and we can identify it. With that identification it gives them the knowledge to be able to treat that disease. I think some people find it surprising that lab workers go out into the field. For my branch it's very important. That way we find the animals and try to better understand where the virus is coming from. In this lab we are looking at chemicals that are present in the environment, and are chemicals that may be affecting human health. In particular, in this lab we are looking at pesticides. Let's say that there is a hospital or something that has an excess number of a certain infection of some kind, we can go in and look at the water, we can look at environmental sources like the air and make sure we are finding where those things are coming from so we can stop them. I do all the testing, mostly for the state health departments, but we do also tests samples from all over the world. A select agent is, for example, a bacteria or virus that the government has felt that if it's in the hands of the wrong person that it can be very dangerous to public health. When we go on inspection we look in every aspect of a program; safety, security, training, records to ensure that these programs are also doing their job at the highest level possible. One of the things that is most exciting right now is the power of technologies that we're calling Advanced Molecular Detection, which is the ability to determine the entire genetic sequence of a pathogen in a matter of days, which just a few years ago would have taken weeks or months. Because we can do these things faster and because we can do them reliably and better, we can isolate those patients, we can prevent those unusual kinds of resistant bacteria from spreading from patient to patient. During the Ebola response, CDC rapidly set up a lab in the middle of Sierra Leone to test patient samples for Ebola. The lab out in the field is providing a service that is very critical to the investigation. Identifying patients, as well as ruling out patients, so that they may then go on with their life. I think knowledge and a better understanding of dangerous pathogens is our greatest tool at minimizing the risks and public health impact of these pathogens. Whether that's improving diagnostics or finding more effective treatments, or developing vaccines, it all starts in the lab. My kids they know what I do. They are proud and I'm proud also to be working here. This is a very great place to work. I think the most important thing about public health is that the work that we do here - myself and my coworkers - is work that saves people's lives, and those are real people, people's moms and dads, and that's important to me.