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NATIONAL PUBLIC HEALTH WEEK: AN INSIDE LOOK AT THE CAREERS BEHIND PUBLIC HEALTH IN FLORIDA AND THE PEOPLE WHO DO THEM

Epidemiology: A Day in the Life of Disease Detectives

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Tallahassee, Fla. – Ebola. Chikungunya. Zika. We hear these exotically-named, emerging diseases in the news we're unfamiliar with, and within a year or two they're commonplace. How do they go from unknown and ominous to familiar and contained? The answer is simple—the work of epidemiologists. Epidemiologists are public health professionals who investigate patterns and causes of disease and injury in humans. Or, in other words, they're "disease detectives." As Isabel Griffin, outbreak epidemiologist in the Applied Epidemiology and Research Unit at DOH-Miami-Dade says, "We serve on the frontlines of outbreak response."

Epidemiologists work diligently to reduce the risk and occurrence of poor health outcomes through research and community education. There are many types of epidemiologists, including those who specialize in infection control, clinical trial research and disasters.

Andrea Bingham, vector-borne disease surveillance coordinator in the Bureau of Epidemiology at DOH in Tallahassee tells us, "The thing I love most about public health is that there is something relevant for everyone's interests. The same can be said about epidemiology. Just within the realm of infectious disease epidemiology you could be involved with investigation/response, surveillance, data analysis/epidemiologic studies, and disease prevention/control."

Most of us are familiar with the field epidemiologist who are famously depicted in big blockbuster movies like "Contagion." Like Griffin, these professionals work in health departments and are dispatched to various locations when an outbreak of disease occurs. They work to identify the disease, determine its cause and work to stop the spread of the disease accordingly. This summer, Bingham was also deployed for six weeks to offer her expertise to Miami-Dade County during the Zika response.

Griffin's interest in epidemiology was first piqued while preparing for her master's in public health on a medical mission trip to Coffee Bay, South Africa. There, her team partnered with the health department and a local ministry to set up a temporary clinic to provide HIV, STD, TB and malaria screenings and necessary treatments. They were able to serve more than 3,000 men, women and children. "Not originally from Miami, I was surprised to discover the infectious diseases that I saw in Coffee Bay were also prevalent in Miami-Dade County." This experience highlighted how as society becomes more globalized, so do public health threats. This made Griffin realize how important disease surveillance and

epidemiology was to overall global health and showed her the opportunity she had to make a real difference in Miami-Dade.

Bingham's interest in epidemiology started in childhood and evolved in college. "I always knew that I wanted a career that dealt with infectious diseases. I decided to minor in public health during my undergraduate studies at the University of South Florida, which ended up being the best decision I could have made. It was through those courses that public health became my passion." After undergrad, Bingham continued her studies earning both a master's in public health and a doctorate in global communicable diseases.

This past summer, we all saw the importance of teamwork during our response to Zika, in which both Bingham and Griffin were deeply involved. Bingham developed protocols for surveillance and response activities and was responsible for ensuring county-level epidemiologists were up-to-date on the latest developments on the rapidly evolving response. Of this experience, Bingham says, "Some of our Zika virus work even ended up changing national recommendations, which is really great to see that impact. I personally find it rewarding to be able to serve as a resource for support and guidance for our county health departments."

Griffin adds, "Our efforts to reduce transmission within our county directly impacted the spread of the virus throughout Florida. DOH-Miami-Dade worked extremely hard with our State and Federal partners to ensure that the residents we serve in Miami, and the entire state of Florida, remained healthy and Zika-free."

When there is not an outbreak, department epidemiologists throughout the state design and implement studies to examine various disease trends within their communities and provide educational presentations to the community and to healthcare providers on emerging public health concerns. "Public health is unique in that the goal is to prevent disease by identifying risk factors associated with infection through epidemiological methods," said Griffin. Bingham agrees, adding "I think epidemiology is the foundation of public health. Epidemiologists help to recognize and define health-based problems as well as identify ways to track and evaluate them, provide education, and apply this knowledge to help make recommendations on how to prevent and control them."

Florida's proximity to South and Central America and our popularity as an international tourist destination comes with a higher risk factor for being the "first" to experience and respond to emerging health threats. That's why we rely on a strong network of epidemiologists working around the clock to keep residents and visitors safe.

Use #ThankAPublicHealthPro on Twitter, Facebook and Instagram to recognize a public health professional in your area during National Public Health Week.

For more information about National Public Health Week, please visit www.nphw.org.

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