

Infectious Disease

The Fellow will be assigned to the Zoonotic and Vectorborne Disease Program (ZVDP) and the Food and Waterborne Disease Program (FWDP), in the Division of Environmental Health, Florida Department of Health (DOH).

The ZVDP collects and analyzes surveillance information on 21 reportable zoonotic and vectorborne conditions in Florida. The staff members also design case investigation tools, develop recommendations for disease prevention and control and develop educational materials for medical providers, county health department staff and the public. The State Public Health Veterinarian chairs Florida's Rabies Advisory Committee, Arbovirus Interagency Taskforce and Tick-borne Disease Studies Group. These coalitions consist of members from state agencies, research laboratories and interest organizations. The groups share surveillance and research data and develop surveillance, prevention and control guidelines for their respective area of expertise. The State Public Health Veterinarian is also leading the Department's effort in avian influenza surveillance and response planning.

The FWDP is responsible for performing surveillance of and assisting with the investigation of food and waterborne disease outbreaks in the state. Staff also prepare and provide training courses for local health department staff, food workers, professional associations, university classes and the public as well as brochures, videos and other types of promotional items with disease prevention messages. The program also has one full-time staff devoted to Food and Waterborne Disease Preparedness issues. The program coordinator is a member of multiple state and national committees and workgroups dealing with food and waterborne disease prevention policies.

The Fellow will be involved in all aspects of the ZVDP and FWDP activities. Day to day duties will include: CDC case report form reviews, answering calls from the public, working with partners on case investigations and outbreaks of zoonotic and food and waterborne diseases, serve as a consultant for county health departments on questions regarding prevention and control of these diseases, data analysis, report and manuscript writing, web site development and web postings. The Fellow will also have opportunities to develop and present training programs and participate in the process of developing guidelines, preparedness response protocols, policies and legislation on zoonotic and food and waterborne disease surveillance and control related issues.

A Fellow working with the ZVDP and FWDP will have the opportunity to work on a variety of projects depending on his or her interests including:

Disease outbreak investigations:

The FWDP investigates approximately 200 disease clusters and 2,500 complaints per year. The ZVDP coordinates the DOH response to recurring arboviral outbreaks (West Nile virus and Eastern Equine Encephalitis virus). Other recent zoonotic disease outbreaks include: locally transmitted malaria, and E coli O157:H7 in petting zoos. The Fellow will be involved in all phases of investigations including: the initial complaint investigations, the design of questionnaire, data collection, analysis, and report writing. Many outbreak investigations require

the participation of multi-disciplinary teams. The FWDP and ZVDP work closely with county nurse epidemiologists and environmental health staff. Additionally, the FWDP and ZVDP work closely with state agencies such as: the Department of Business and Professional Regulation, the Department of Agriculture and Consumer Services and the Fish and Wildlife Conservation Commission, as well as federal agencies like FDA, CDC and USDA.

Epidemiological studies:

Both programs have access to large databases including: Florida's Reportable Disease Database, "Merlin" and the Food and Water and Vectorborne Surveillance System that contains FWDP outbreak and complaint data and animal arboviral sentinel surveillance data. Both programs also have access to statewide hospital discharge data and vital statistics data.

Potential projects include:

A. A study of rabies post exposure prophylaxis trends in Florida. Rabies is endemic in the state. More than 1,000 people every year receive post-exposure prophylaxis for animal bites. Risk factors leading to animal bites by feral cats, racoons and other high risk animals need to identified.

B. An analysis of the trends of selected food and waterborne diseases in the state. The FWDP has more than 10 years worth of data on food and waterborne outbreaks. Diseases of particular interest in Florida include: *Vibrio vulnificus*, *Vibrio parahaemolyticus*, *Cryptosporidium*, *Ciguatera*, and *Salmonella*, among others.

Surveillance System Evaluation:

The Fellow will evaluate the Department's *Escherichia coli* 0157:H7 surveillance system. This pathogen is spread both via food, water and direct contact with animals. Symptoms include: watery or bloody diarrhea that may or may not be complicated by renal failure (Hemolytic Uremic Syndrome (HUS)). For laboratory confirmation, bacterial isolates have to be typed at the DOH laboratory.

Epidemiologic Preparedness/ Emergency Response Project:

Both the FWDP and ZVDP work closely with the department's disaster and bioterrorism preparedness team. Program staff has been involved in the epidemiological and environmental health response to the 7 hurricanes that have struck Florida since August 2004 and the planning of surveillance efforts associated with the 2005 Superbowl. The programs are represented on teams that are standardizing the department's syndromic surveillance efforts, developing our BIOWATCH response plan, the epidemiology and biological incident response sections of the state's Comprehensive Emergency Management Plan, and the zoonotic portions of the state's pandemic influenza plan. The Fellow will have several opportunities to participate in the development and review of preparedness response plans and policy.

As part of the preparedness effort, the department, led by the Bureau of Epidemiology, convened a workgroup to develop an initial set of measures of epidemiologic effectiveness. This broad-based work group identified 14 indicators. In addition, DOH is obligated to collect data and report on about 10 performance metrics related to the epidemiologic components of public health emergency response. The Fellow would work with the PHP Epidemiology Program Manager in

the Bureau of Epidemiology to develop and field test operational protocols for measures related to timeliness and completeness of reporting, notification, response, and intervention in urgent infectious and other acute disease emergencies, including those that are food-, water- or vector-borne.

Assignment Location: Tallahassee, FL

Primary Mentor: Carina Blackmore, PhD, MS Vet. Med. (DVM)
State Public Health Veterinarian
State Environmental Epidemiologist
Environmental Epidemiology Program Manager (2003-present)

Advanced Degrees: MS in Veterinary Medicine (DVM), Swedish University of Agricultural Sciences (1989)
PhD, University of Notre Dame (1996)

Secondary Mentor: Roberta Hammond, PhD, MA, RS
Environmental Administrator

Advanced Degrees: PhD, Temple University (1993)
MA, Temple University (1986)
RS, Florida (2006)

Secondary Mentor: Danielle Stanek, DVM
Medical Epidemiologist

Advanced Degrees: BS, University of Florida (1985)
DVM, University of Florida (1989)