Infectious Disease

A Fellow working with the Food and Water-Borne disease Program (FWDP) and the ZVDP 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) as well as introduced diseases such as the ongoing Dengue outbreak in the Florida Keys.

Other recent zoonotic disease outbreaks and emerging disease issues include: locally transmitted malaria, transfusion acquired infections, brucellosis in feral swine hunters, tick-vectored Rickettsia parkeri infections 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 ZVPD work closely with the Florida Department of Health's Bureau of Epidemiology and 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 syndromic surveillance data, hospital discharge data and vital statistics data.

Day To Day Activities: 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, participate in field investigations 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.

Potential Projects:

A. A study of dog and cat bite trends and risk factors in Florida. Animal bites occur regularly in Florida, with children less than 15 years of age being at particular risk for dog bites, and adults more likely to be bitten by cats or wildlife. Risk factors leading to animal bites by dogs, domestic and cats need to be identified. The impact of growing numbers of feral cat colonies on animal bites should also be assessed.

The Fellow will be responsible for developing the study design and analysis approach. Potential data sets of interest include: medical record, emergency room and hospital discharge data.

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, Cyclospora, Ciguatera, and Salmonella, among others. A significant number of Salmonella cases type out with serovars commonly associated with reptiles or amphibians. Analysis of reptile and other animal-associated Salmonella infections is of particular interest.

C. The Fellow will evaluate the Department's surveillance system for human salmonellosis. Salmonella spp. have been implicated in several recent outbreaks of national concern. Salmonellosis is a public health concern in Florida; Almost 5,000 cases are reported to the Florida Department of Health each year. The organism, which causes a diarrheal illness in humans, is primarily spread by food and by contact with animals or contaminated objects in the environment. Salmonella can also be transmitted from person to person. Cultures are performed at private laboratories, further genetic typing (serotyping and PFGE) is done at the Florida Department of Health laboratory and data are shared nationally through Pulsenet.

Emergency Preparedness Role:

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 and 2009 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.

Location: Tallahassee, Florida

Primary Mentor: Carina Blackmore, DVM, PhD

State Public Health Veterinarian, State Environmental Epidemiologist

Secondary Mentors: Danielle Stanek, DVM

Medical Epidemiologist

Roberta Hammond, PhD, MA

Environmental Administrator