

ID: 73377632

One Health, Infectious Diseases - Host Site Description

Utah Department of Health and Human Services

Assignment Location: Salt Lake City, US-UT
Utah Department of Health and Human Services
Division of Public Health

Primary Mentor: Willy Lanier, DVM, MPH
Utah State Public Health Veterinarian
Utah Department of Health and Human Services

Secondary Mentor: Leisha Nolen, MD, PhD
Utah State Epidemiologist
Utah Department of Health and Human Services

Work Environment

Hybrid

Assignment Description

Our AEF will primarily work with the UDHHS Office of Communicable Diseases. The mission of the Office of Communicable Diseases is to prevent sickness and death from infectious diseases and environmental hazards through surveillance, investigation, response, preparedness, data analysis, education, and health policy change. The Office monitors and responds to communicable disease outbreaks, epidemics, potential bioterrorism threats/events, and other unusual occurrences of illness. This Office has a vision to utilize scientific principles and knowledge to foster healthy communities free of preventable diseases. In addition to DHHS, our AEF will have the opportunity to work with and learn from partners in many allied organizations.

Our fellow will be allowed a substantial amount of ‘protected time’ to work on fellowship projects. Our AEF will also participate in meetings with supervisors and others to plan for how to tackle projects. Much of our fellow’s day-to-day work will involve applied epidemiology activities in an office setting to complete critical fellowship learning activities, such as writing, reading, and editing reports of surveillance and investigations; coordinating with partners via email; and meeting (in-person and virtual) with partners to collaborate and strategize on prevention strategies. However, we will prioritize opportunities for our fellow to participate in field investigations. After an introductory orientation period, we will encourage our fellow to propose projects, seek out/develop projects independently, and collaborate with a wide array of partners.

Describe Statistical and Data Analysis Support, Such as Databases, Software, and Surveillance Systems Available to the Fellow

Multiple staff members at UDHHS are skilled in R and SAS and can train and support our fellow in statistical analysis.

Projects

Surveillance Activity Title: Creation of the Utah One Health surveillance platform starting with New World screwworm

Surveillance Activity Description:

Currently, surveillance efforts for One Health conditions are siloed, with separate systems for health concerns in humans, domestic animals, wildlife, and the environment. This fragmented approach denies responders ready access to a common surveillance and operating picture, which slows down response and might lead to missed opportunities for prevention. Our fellow will work with agriculture, wildlife, environmental, and human health partners to integrate data

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and build an integrated One Health surveillance platform. Our fellow will use New World screwworm (NWS), a reemerging One Health concern that will likely soon re-enter the United States, as the initial use case. After NWS, our fellow will work with partners to add additional One Health conditions (e.g., West Nile Virus, antimicrobial resistance) to the shared platform. Following creation, our fellow will assess the human, animal, and environmental data available in the new platform, analyze trends, and make recommendations regarding future One Health surveillance, investigation, and prevention in Utah.

Surveillance Activity Objectives:

Create the Utah NWS/One Health surveillance platform, analyze available data, and recommend improvements for surveillance, investigation, and prevention.

Surveillance Activity Impact:

This integrated approach to visualizing NWS and other One Health concerns will increase the speed and effectiveness of response, improving health outcomes and reducing costs associated with duplication of efforts, lack of coordination, and protracted responses.

Surveillance System Evaluation Title: Evaluation of exposures reported through Utah’s online rabies exposure assessment tool

Surveillance System Evaluation Description:

During 2023-24, Utah established an online rabies exposure assessment tool to automate risk assessment of exposures and delivery of preventive recommendations, including postexposure prophylaxis administration, animal quarantine/isolation, and animal testing. Automating this process force-multiplies our rabies response capacity and provides efficient and consistent guidance statewide. So far, the tool has been used nearly 2,000 times. Our fellow will evaluate the new tool as a surveillance system for possible rabies exposures, assess data completeness, and follow up to determine the effectiveness of the tool at connecting people to care and prevention resources. Following assessment, our fellow will provide recommendations to improve the system.

Surveillance System Objectives:

Evaluate Utah’s new online rabies exposure assessment tool as a surveillance system for possible rabies exposures and provide recommendations for improvement.

Surveillance System Impact:

This will be Utah’s first comprehensive assessment and summary of this surveillance system and of possible rabies exposures. The fellow’s assessment and recommendations will help strengthen Utah’s rabies exposure surveillance and will inform response and prevention efforts.

Major Project Title: Raw milk consumer focus groups

Major Project Description:

Utah is one of the top states in terms of numbers of illness outbreaks associated with consumption of raw milk, which is legal to sell in Utah. Little is known about raw milk consumers’ attitudes or values, but conventional public health messaging seems to be ineffective in influencing behavior. Recently, Utah public health and agriculture partners have taken a more neutral approach in posting online information about raw milk (rawmilk.utah.gov). In order to gauge the impact of this change and to better understand the perspective of those individuals who drink raw milk, our fellow will facilitate focus groups of raw milk consumers.

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Major Project Objectives:

Facilitate focus groups of raw milk consumers, summarize feedback, and make recommendations regarding effective communication and prevention strategies.

Major Project Impact:

Results of the focus groups will inform efforts to prevent illnesses associated with raw milk consumption.

Additional Project #1 Title: Pets-and-people vaccination clinic

Project #1 Type: Major Project

Project #1 Description:

During 2024-2025, we held three pets-and-people vaccination clinics in Utah. Here's an example flyer for one of our "Paws for Prevention" clinics: https://www.saltlakecounty.gov/globalassets/1-site-files/animal-services/events/paws-for-prevention_10.3.25_flyer.pdf. These were the first of their kind in Utah and were very successful, with a total of 353 pets and ~152 people vaccinated. This concept leverages the power of the human-animal bond and convenience to close healthcare access gaps. These events also help bolster public health preparedness capabilities by strengthening community partnerships and providing valuable opportunities to exercise mass delivery of medical countermeasures. Clinic participants gave positive feedback and this concept has since gained popularity among animal and human health professionals in Utah and beyond. Our fellow will help facilitate one or more additional One Health vaccination clinics in Utah. Additionally, our fellow will develop a data collection process for these clinics and analyze collected data to help assess important epidemiologic questions, including the extent to which pets-and-people vaccination clinics encourage people to be vaccinated. Finally, our fellow will develop written guidelines for these clinics that can be used to plan additional clinics in Utah and beyond.

Project #1 Objectives and Expected Deliverables:

Facilitate one or more pets-and-people vaccination clinics, analyze associated data, and write clinic guidelines.

Project #1 Impact:

This project will provide vaccinations for additional people and pets, protecting them from rabies, flu, and other diseases. Additionally, this project will help further develop models for One Health clinics, which could be adapted nationally.

Additional Project #2 Title: Assess vector-borne disease risk among migrant and seasonal workers in Utah

Project #2 Type: Major Project

Project #2 Description:

The incidence of vectorborne diseases, such as West Nile Virus infection, increases in Utah during summer-fall. Migrant and seasonal workers might be at increased risk of infection due to increased outdoor exposure. However, little is known about the true incidence or risk in these populations due to multiple factors, including barriers regarding education, healthcare access, and language, as well as limited understanding of exposure and protective factors (e.g., mosquito repellent). To assess vectorborne infection risk, risk perception, and incidence in migrant and seasonal workers, our fellow will analyze relevant data, conduct surveys, and interview various partners, including those in healthcare and agricultural entities. Using the findings from this project, our fellow will provide recommendations to inform surveillance and prevention.

Project #2 Objectives and Expected Deliverables:

Assess infection risk and incidence and knowledge and perceived risk of vectorborne illness in migrant and seasonal workers and provide recommendations for surveillance and prevention.

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Project #2 Impact:

A better understanding of vectorborne infection risk and vectorborne disease knowledge among migrant and seasonal workers will help us provide better and more targeted recommendations for prevention and education.

Additional Project #3 Title: Determine model practices for rabies specimen submission to reduce unsuccessful tests and decrease avoidable rabies post-exposure prophylaxis administration

Project #3 Type: Major Project

Project #3 Description:

An animal specimen is often submitted to the Utah Public Health Laboratory for rabies testing after a potentially rabid animal scratches or bites a person. If the result is negative, which is the case in the vast majority of instances, we do not recommend rabies post-exposure prophylaxis (PEP) for the exposed person. If positive or if the test is unsuccessful, we recommend PEP, which is costly and burdensome on the patient and the healthcare system. The animal in question in most unsuccessful rabies tests are assumed to be negative, but because we can't completely rule out rabies and because rabies is so severe, we recommend PEP; therefore, unsuccessful tests often lead to PEP and its associated burdens that could have been avoidable. Approximately 4% of all rabies tests in Utah are unsuccessful, each one resulting in costs and burden that, in many cases, could have been avoided. A recent analysis of unsuccessful tests demonstrated wide variability in the rate of unsuccessful tests between various frequent submitters of animal specimens and led to the recommendation that lessons learned from certain submitters might inform successful submission protocols. The Fellow would interview submitters-both those with high and low unsuccessful submission rates-to identify model practices for successful submission.

Project #3 Objectives and Expected Deliverables:

Interview animal rabies specimen submitters to identify and describe successful animal specimen submission protocols.

Project #3 Impact:

This project will help decrease avoidable rabies PEP administration by reducing unsuccessful rabies tests.

Additional Project #4 Title: Leverage electronic reports to auto-classify zoonotic and vectorborne conditions in Utah's infectious disease surveillance system

Project #4 Type: Surveillance Activity

Project #4 Description:

Zoonoses and vectorborne diseases often require resource-intensive manual review to be classified in Utah's infectious disease surveillance system (EpiTrax). Initially, the fellow would work with the DHHS One Health Epidemiology, Informatics, and Surveillance teams to develop recommendations on feasibility and future direction of automated classification for select zoonotic and vectorborne conditions, and on which conditions should be included in this effort. The fellow would then work with these partners to develop and operationalize an automated surveillance for these conditions.

Project #4 Objectives and Expected Deliverables:

Develop an automated classification mechanism for selected zoonotic and vectorborne conditions in EpiTrax.

Project #4 Impact:

This project will lead to expedited, more efficient classification of zoonotic and vectorborne conditions, which would provide high-quality surveillance data while saving public health resources.

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Please Describe the Fellow's Anticipated Role in Preparedness and Response Efforts – Include Activities and Time Allocation (Required Competency of Fellowship)

We will encourage our fellow to complete One Health projects to bolster public health response preparedness (One Health preparedness). For example, our fellow will assist local health departments and animal health partners prepare to respond to future outbreaks of highly pathogenic avian influenza. On a more routine basis, our fellow will also participate in monthly public health preparedness coordination meetings. This work is expected to comprise at least 10% of our fellow's time.

Please Describe the Fellow's Anticipated Role in Cluster and Outbreak Investigations – Include Activities and Time Allocation (Required Competency of Fellowship)

For every outbreak we become aware of and as often as possible, we will facilitate opportunities for our fellow to lead and assist in the investigation. This might include outbreaks of foodborne, vectorborne, zoonotic, or nonzoonotic infections. Outbreak investigations will be a major focus of the fellowship and will be expected to comprise at least 20% of the fellow's time.