

Example – CSTE Applied Epidemiology Host Site
Infectious Diseases - Host Site Description
Washington State Department of Health

Example – CSTE Applied Epidemiology Host Site

Disclosure: This is an example of a past host site projects proposal and is not intended to be an available host site location. This is posted for example purposes of the projects and activities a host site can propose for the fellow.

Assignment Location: Shoreline, US-WA
Washington State Department of Health
Office of Health & Science, Center for Medical & Veterinary Sciences

Work Environment
100% Virtual

Assignment Description

The fellow will be placed in the Office of Health and Science, Division of Medical & Veterinary Sciences. The Office of Health and Science (OHS) provides guidance and oversight of surveillance and data analysis to identify factors that influence diseases, and provides technical assistance on diseases, data collection, analysis and interpretation necessary to improve the health of the people in Washington State. The Division of Medical & Veterinary Sciences houses the State Epidemiologist for Communicable Disease, four Regional Medical Officers, the State Public Health Veterinarian, the Nursing Consultant, a CDC Epidemic Intelligence Service Officer, and a CDC Career Field Epidemiology Officer. The fellow will also work closely with programs and staff in the Office of Communicable Disease Epidemiology (OCDE). OCDE is responsible for the prevention, surveillance, and control of communicable notifiable conditions in Washington State including vaccine preventable diseases, foodborne/enteric diseases, zoonotic and vector borne diseases, healthcare associated infections, prion diseases, and emerging diseases of public health concern. The refugee health and tuberculosis surveillance programs are also housed within this office. OHS and OCDE are co-located with the Washington State Public Health Laboratory (Shoreline, WA) and staff have many opportunities to interact with the microbiology, molecular, virology, and enterics labs. Collaboration with the Public Health Laboratories is possible depending on the interests of the fellow. The work of OHS and OCDE therefore provides a wide range of experiences and a dynamic and challenging work environment that allows a fellow multiple opportunities for career growth in a mentored setting. OHS and OCDE staff maintain relationships with local, state, and federal agencies and are able to foster connections with multiple partners.

The fellow will be supported in reviewing potential projects including frequent meetings with both mentors as needed. The fellow will assume responsibility for reviewing and classifying electronically reported notifiable conditions cases in order to gain familiarity with disease surveillance and control. After training, the fellow will take calls from local health jurisdictions and provide consultation on the management of reported cases of a variety of notifiable conditions.

Day-to-day activities for the CSTE Fellow include attending daily office meetings to discuss current case and outbreak investigations, reviewing reported notifiable condition cases, consulting with local health jurisdictions, learning and maintaining updated guidance for notifiable condition investigation and control, and surveillance and major project activities.

Large multi-jurisdiction outbreaks are not uncommon in Washington, and the fellow will be encouraged to lead or participate in investigation and response as the need arises. Other projects to be undertaken by the fellow will vary based on the fellow's interest and the time available.

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

The fellow will be supported by subject matter experts and will be encouraged to utilize access to SAS, Stata, R, LinkPlus, EpiInfo, and a variety of statewide databases for surveillance and analysis projects.

Projects

Surveillance Activity Title: Surveillance for Alpha-gal Syndrome in WA

Surveillance Activity Description:

In 2022, the first confirmed case of Alpha-gal syndrome likely due to tick exposure in WA was reported. At this time, we have no information regarding how common Alpha-gal syndrome may be in WA. CDC has available data from a laboratory performing national testing indicating that at least 10 people have tested positive in WA over the past 5 years; this project would include active surveillance through allergists to identify additional cases of alpha-gal syndrome. If additional cases of suspected endemic exposure are identified, additional surveillance actions could include working with local health jurisdictions to begin routine surveillance efforts, conducting tick drags, and drafting surveillance recommendations.

Surveillance Activity Objectives:

- Describe the prevalence of alpha-gal syndrome in WA
- Work with public health partners to determine recommendations for alpha-gal syndrome surveillance in WA

Surveillance Activity Impact:

Additional understanding of the epidemiology of alpha-gal syndrome in WA could allow targeted messaging for prevention. Surveillance over time would allow greater understanding of the impact of a changing climate on vectors and people.

Surveillance System Evaluation Title: Rabies Surveillance Evaluation using Syndromic Surveillance

Surveillance System Evaluation Description:

In Washington State, not all animal bites or events of post-exposure prophylaxis (PEP) are reportable— instead, we require reporting of suspected rabies exposures. This is to avoid unnecessary use of public health resources in situations where an animal bite occurs but rabies is not suspected; however, it leads to limited understanding of when healthcare providers are considering rabies and administering PEP. Additionally, it limits data comparison with other states using alternative definitions for data capture. Administration events of PEP are captured through syndromic surveillance data streams; identifiers are available to allow matching to other surveillance data. This project would assess the completeness of existing surveillance for suspected rabies exposure events, determine gaps in reporting, identify areas for additional healthcare provider education, and make recommendations regarding surveillance system changes that may be needed.

Surveillance System Objectives:

- Evaluation of surveillance system completeness and overlap with all reported PEP administrations
- Identify areas for surveillance system improvement
- Identify areas for healthcare provider education
- Develop recommendations for surveillance system improvements

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Surveillance System Impact:

Completion of this project would improve education efforts for rabies PEP administration and ensure public health resources are used in an efficient way.

Major Project Title: Chagas Disease Screening, Prevention, and Investigation in WA

Major Project Description:

Historically, Chagas disease was not reportable in WA; in 2023, new administrative code updates required laboratory and healthcare provider reporting of cases of Chagas disease. Current screening recommendations include all blood donors, persons who were born or lived for >6 months in endemic areas (especially women of child-bearing age), and first-degree relatives of persons diagnosed with Chagas disease. While systems are in-place to systematically screen blood donors, screening programs for persons who previously resided in endemic areas are not routinely available. This project would utilize birth certificate data and syndromic surveillance data to assess 1) the number of births per year to women reporting country of birth in an endemic area, 2) test ordering practices for Chagas disease screening. Resources would be developed to increase healthcare provider education on recommendations for screening, to improve public health investigations and response to reported cases, and to support culturally and linguistically relevant health education for at-risk communities.

Major Project Objectives:

- Assess WA birth certificate data to understand the number of persons giving birth in WA who were born in country endemic for Chagas disease.
- Assess syndromic surveillance data for test ordering codes for Chagas disease to understand current screening practices.
- Assess geographic distribution of at-risk populations in WA using birth certificate, syndromic surveillance and census data.
- Develop public health guidance materials for response to reported cases of Chagas disease.
- Develop communications for healthcare providers to increase screening in recommended populations.
- Develop culturally and linguistically relevant health communications for at-risk populations to encourage screening.

Major Project Impact:

Improve public health investigations and response to reported cases, and to support health education for at-risk communities.

Additional Project #1 Title: Development of a One Health Data Storage Solution
Project #1 Type: Major Project

Project #1 Description:

In WA, there is currently no way to link human case data to animal case data for combined analysis projects. This project would involve design and development of a robust system for collecting and linking data, consider data requirements and needs across existing One Health systems.

Project #1 Objectives and Expected Deliverables:

- Description of user requirements for development of a One Health data system
- Initiation of data system development in collaboration with other agencies and IT experts

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Project #1 Impact:

Improve surveillance, understanding of and response to disease threats that impact both animals and people.

Additional Project #2 Title: Tuberculosis Data Visualization and Communications Development

Project #2 Type: Surveillance Activity

Project #2 Description:

Current tools used to communicate risk of tuberculosis to patients are not user friendly. The fellow would create an improved data visualization tool, support development of data analysis tools, and assist in developing surveillance for deaths due to tuberculosis.

Project #2 Objectives and Expected Deliverables:

- Development of data visualization and analysis tools
- Development of a surveillance system for deaths due to tuberculosis

Project #2 Impact:

Improve patients' access to understandable information with respect to tuberculosis risk, which impacts equity as patients are frequently of underserved populations. Improve surveillance for tuberculosis mortality in WA to better understand and decrease incidence of severe outcomes.

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

The Office of Communicable Disease Epidemiology does contain an Emergency Preparedness section which works very closely with the Department of Health's Emergency Preparedness and Response unit. The Office does extensive planning for emergencies, and the fellow will have ample opportunity to plan and be part of tabletop exercises, update planning materials, and participate in actual incident command structure. As an example, the Office does work very closely with the Washington State Department of Agriculture on zoonotic disease, and the fellow will have the opportunity to plan, participate in, and update materials related to West Nile virus, among many other examples that will arise during the fellow's tenure.

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

The Office does occasionally go into incident command for outbreaks and other large events, and the fellow will be trained on incident command procedures and will participate in outbreaks and other emergency events as the opportunity arises. Past fellows have deployed to both CDC and to other parts of Washington state to assist with large scale events, such as Ebola response and measles response. The Department also employs readiness groups to address emerging issues without going into full-scale incident command structure. These readiness groups enlist subject matter experts/consultants to help inform planning and response, and the fellow may have the opportunity to have a role in one of these groups.