Infectious Diseases

Delaware Health and Social Services, Division of Public Health

Dover, Delaware

Assignment Description

Control and prevention of communicable diseases remain high priority areas for the Delaware Division of Public health (DPH). Despite significant progress, many challenges remain. Due to state and federal resource constraints, the Viral Hepatitis Program faces significant surveillance challenges.

Hepatitis C virus (HCV) infection is the most common chronic blood-borne infection in the United States. The Viral Hepatitis Program in Delaware (as in most states) is underfunded and understaffed, making it challenging to conduct meaningful disease surveillance, a critical component of the strategy to prevent and control HCV infection in DE.

The majority of acute HCV infections we are seeing in Delaware are in people 40 years of age or younger suggesting IDU is playing an increasingly important role in transmission. This is borne out by these statistics:

In 2018, there were 2,274 opioid arrests, most between the ages of 20-40 years.

There was a total of 308 overdose fatalities in 2018 in the State of Delaware most between ages 25-50. Geographically, the largest number of fatal overdoses occurred in New Castle County, followed by Sussex County, and Kent County.

This data supports the hypothesis that the opiate crisis is playing an increasingly important role in HCV infection among the younger adult population of Delaware.

Day-to-Day Activities

The main activity of the fellow will be to assist with Viral Hepatitis C surveillance activities as laid out in the HCV surveillance manual. The fellow is expected to:

- Develop an in-depth knowledge of the CSTE surveillance case definitions for acute and chronic HCV.
- Interpret laboratory and other results received through the Delaware Electronic Reporting Surveillance System (DERRS) to determine case classifications
- Know when additional information is required to make case determination, and reaching out to medical provider offices etc. to gather the needed information
- Create cases in DERRS and create reports detailing the character of HCV in the state of Delaware.

To a lesser extent, the associate will assist with the recently launched HIV genotype surveillance to identify clusters of HIV infection.

The resulting reports will be used to inform HCV prevention activities including addressing the ongoing opiate crisis.
Potential Projects

Surveillance Activity  Hepatitis C Surveillance

The Fellow will conduct HCV surveillance and investigation activities under general supervision of the Adult Viral Hepatitis Program Coordinator and hepatitis C epidemiologist. The Fellow will have access to the Delaware Electronic Reporting Surveillance System (DERSS) to gather and compile HCV data and will use analytic software, specifically SAS or Epi Info, to manage and analyze the resulting complex datasets; and to compose and produce technical reports, documents and other related materials. The Fellow is expected to be comfortable reaching out to health providers to gather additional information required for case determination. He/she may travel throughout the state as needed.

Principal Duties

The Fellow will be responsible for:

Conducting HCV disease surveillance which includes but not limited to:

- Monitoring of chronic HCV cases
- Identification of acute HCV cases for further investigation.
- Coordinating with the Division of Substance Abuse and Mental Health (DSAMH) to monitor HCV associated with illicit drug activities.
- Conduct investigations as needed, summarize and review data reports, interpret results and make recommendations.

Surveillance Evaluation  Hepatitis C Surveillance Evaluation

The goal of the HCV surveillance program in Delaware is to collect, analyze, and disseminate HCV data for the planning, implementation, and evaluation of prevention and control measures. The system will be regularly reviewed on the basis of usefulness, cost effectiveness, and quality, and the systems will be modified accordingly as a result.

Attributes to be reviewed will include:

- Usefulness: value, practicality of information generated by the surveillance system. How the data generated can be used to improve public health in relation to HCV.
- Attributes: simplicity, flexibility, data quality, acceptability, sensitivity, predictive value positive, representativeness, timeliness, and stability of the system

The CSTE fellow is expected to apply the CDC’s Framework for Evaluation of Public Health Surveillance Systems. https://www.cdc.gov/eval/framework/index.htm

Major Project  Hepatitis C Surveillance

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analytic software, specifically SAS or Epi Info, to manage and analyze the resulting complex datasets; and to compose and produce technical reports, documents and other related materials. The Fellow is expected to be comfortable reaching out to health providers to gather additional information required for case determination. He/she may travel throughout the state as needed.

**Surveillance Activity  HIV Cluster Determination**

The Fellow will assist the HIV Surveillance office with analyzing molecular HIV surveillance data to identify clusters of cases with closely related HIV strains (i.e., molecular clusters). This method has just been introduced in Delaware and will provide the Fellow a unique opportunity to participate in the identification of transmission clusters that are not detected through other mechanisms. This is particularly important as Delaware borders major metropolitan areas with high incidence of HIV infection and persons do not always provide contact tracing information to Disease Investigation Specialists (DIS).

**Preparedness Role**

The Fellow will be assigned a role to support surveillance work in the State Health Operations Center (SHOC) which provides command and control for all public health and medical response and recovery functions and Emergency Support Function (ESF) in the event of a statewide or local emergency or disaster. The SHOC oversees and coordinates health and medical response operations including the operation of Points of Dispensing (PODs), Alternate Care Sites, Shelter Medical Stations, and hospital coordination.

**Additional Activities**

The fellow may be called upon to help review draft Delaware Health Alert Network (DHAN) releases as appropriate. The DHAN is an electronic notification system to health care providers through emailing and faxing. The message is sent out to the distribution lists selected by DPH subject-matter experts.

The message recipients are private and public healthcare personnel, school nurses and emergency personnel like EMS, firefighters, paramedics, law enforcement, and state health personnel.

**Mentors**

**Primary**  
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**Secondary**  
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