

**ID: 35110491**

**Infectious Diseases, Substance Use/Mental Health - Host Site Description  
Los Angeles County Department of Public Health**

**Assignment Location:** Los Angeles, US-CA  
Los Angeles County Department of Public Health  
Acute Communicable Disease Control/Viral Hepatitis Unit

**Primary Mentor:** Prabhu Gounder, MD, MPH  
Medical Director, Viral Hepatitis Unit  
Los Angeles County Department of Public Health

**Secondary Mentor:** Mirna Jewell, MPH, MA  
Supervising Epidemiologist  
Los Angeles County Department of Public Health

**Work Environment**

Hybrid

**Assignment Description**

The fellow will be based in the Viral Hepatitis and Respiratory Diseases Unit (VRU) that is nested within the Acute Communicable Disease Control Program. The fellow will report to the Medical Director and work with the Supervising Epidemiologist. The fellow's primary project will be to help establish a person-level registry of chronic HCV, which is a top priority for VRU; through this project, fellows will gain experience in data management and analysis of surveillance datasets. Because the registry project is long-term, not time sensitive, and supported by other epidemiologists within VRU, the fellow will have opportunities to take on other projects as they arise, such as participating in viral hepatitis outbreak investigations and response. So the day-to-day activities will have a base of data management activities but the exact nature of the activities will vary based on the other special projects/investigations as they arise.

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

One major advantage of LA County is our large, mobile and diverse population of 10 million people leading to high incidence of numerous diseases and events lending to analytic power to confidently answer important population and public health questions of interest. We provide the fellow with access to SAS, R, Tableau, and ArcGIS as standard issue as well as some basic training and work with the fellow to facilitate other tools they may need to complete analytic projects. The LA County Department of Public Health has many doctoral level epidemiologists available to provide consultation on any questions that arise. The fellow will have access to IRIS, the core surveillance system at LA County Public Health that receives and integrates all reports from providers and laboratories on all reportable infectious diseases.

**Projects**

**Surveillance Activity Title: Assist with Developing a Person-level Chronic Viral Hepatitis C Registry**

*Surveillance Activity Description:*

The viral hepatitis C registry is comprised of persons with confirmatory electronic and manual lab results from 2008 to now. The registry has been deduplicated and is in the final stages of identifying the current case status based on the lab results from those years. Up until now, only positive lab results were reportable. Due to changes in guidance, we will be receiving negative HCV antibody and RNA results via a flat file that will need to be integrated into the HCV registry. The result of the integration will be to describe the true prevalence of HCV among Los Angeles residents tested. Additionally,

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the fellow will be able to create a care cascade according to CDC guidance that will lay the foundation for case managers to connect persons with a positive HCV test result to treatment.

*Surveillance Activity Objectives:*

The objective of the activity is to create a person-level hepatitis C registry. Expected deliverables include a report summarizing the epidemiology of hepatitis C in LA County and developing a care cascade for case management.

*Surveillance Activity Impact:*

The hepatitis C registry will have several impacts:

- 1) assist with identifying acute and recently infected cases of hepatitis C
- 2) provide information to community stakeholders on the hepatitis C care cascade to help measure progress towards elimination
- 3) support linkage to care for persons with known untreated hepatitis C
- 4) provide data for annual reports on the epidemiology of hepatitis C

**Surveillance System Evaluation Title: Evaluate the Perinatal Hepatitis C Surveillance System**

*Surveillance System Evaluation Description:*

The perinatal hepatitis C surveillance system is comprised of multiple data sources for identification and management of perinatal hepatitis C cases. The first source is positive lab data for children less than 3 years old and the second is cases identified through vital records of birth mothers that are matched with the hepatitis C registry. Following case identification is a care cascade that will improve early case detection, testing and management. This is a new surveillance system that will benefit from assessment using the CDC framework for evaluating surveillance systems.

*Surveillance System Objectives:*

The objective of this assessment is to apply the CDC framework for evaluating surveillance systems and:

- 1) describe the surveillance system and the goals
- 2) evaluate data quality and case identification methods
- 3) utilize various evaluation metrics for confirming and defining cases such as predictive positivity
- 4) demonstrate trends in reporting and cases. An expected deliverable will be a report summarizing the surveillance evaluation and making recommendations for improvement

*Surveillance System Impact:*

To improve the identification and management of perinatal hepatitis C.

**Major Project Title: Use Multiple Data Sources Including the Multiple Cause of Death (MCO) Dataset for Analyzing HCV Mortality**

*Major Project Description:*

The fellow will integrate the HCV registry with vital records to analyze HCV mortality of persons with a positive HCV test versus those that have HCV listed as a cause of death on the death certificate. The fellow will be able to document trends in HCV mortality and among persons with a positive HCV test.

*Major Project Objectives:*

The objective of this project will be to analyze the MCO dataset and HCV registry to describe HCV mortality and mortality in persons with HCV in Los Angeles County. The deliverable will be a report summarizing the results.

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*Major Project Impact:*

To better understand HCV mortality and HCV-related mortality in Los Angeles County to tailor interventions aimed at reducing mortality among persons with HCV.

**Additional Project #1 Title: Analyze Text-based Investigations on Newly Reported Hepatitis C Cases in Persons Aged 18-29**

**Project #1 Type: Surveillance Activity**

*Project #1 Description:*

Through the Hepatitis C surveillance system, we regularly receive positive lab results indicating potential new infection of Hepatitis C. However, LA County Public Health does not have the resources to investigate each new hepatitis C report to assess risk factors and determine if they are potentially acute infections. It is important to better understand the epidemiology of newly reported hepatitis C infections because they have several public health implications. Among women, the potential for transmitting untreated Hepatitis C infection to their fetus is increased. Among people who inject drugs, the potential for transmitting Hepatitis C through shared needles without adequate interventions is increased. The fellow will analyze the data from this novel electronic case investigation approach to better describe the characteristics and risk factors on newly reported Hepatitis C cases in persons aged 18-29 years.

*Project #1 Objectives and Expected Deliverables:*

To improve understanding of the epidemiology of newly reported hepatitis C cases in persons aged 18-29 years. The expected deliverable will be a report summarizing the epidemiology of newly reported hepatitis C cases in persons aged 18-29 years.

*Project #1 Impact:*

To understand the characteristics of and risk factors among newly reported hepatitis C cases in persons aged 18-29 years to inform the development of policies and programs to prevent and control Hepatitis C in LA County.

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

As part of a CDC grant for viral hepatitis, the VRU will have to develop a plan for acute hepatitis A, B and C outbreak detection and response. The fellow will have the choice of leading the development of one of the following protocols that are currently missing from our overall viral outbreak response plans:

- 1) community-wide hepatitis A outbreak response
- 2) detection of and response to clusters of hepatitis B and C

For the community-wide outbreak response plan, the fellow will have access to documents prepared during the local hepatitis A outbreak response among persons experiencing homeless in 2017-2018; those documents provide a roadmap that can be synthesized into a protocol for future response. For the detection of and response to hepatitis B and C clusters, the fellow will reach out to CDC and other jurisdictions to learn how they are currently doing this surveillance, assess the feasibility of establishing a similar response locally, and, if feasible, develop a local protocol for response. We anticipate that developing either of these protocols could take 80-120 hours distributed over the first year of the fellowship.

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

The VRU regularly responds to two categories of outbreaks:

- 1) hepatitis A infection in a food handler
- 2) suspected healthcare associated transmission of hepatitis B or C.

In these outbreaks, the fellow (supported by the medical director) will take a leading role in organizing all key aspects of the response including:

- detection/investigation of additional cases
- conducting site visits to assess potential sources of transmission
- developing data collection tools (e.g., line lists and case interviews)
- conducting data analysis when needed to assess between multiple potential sources of transmission
- organizing meetings (including setting agendas and tracking action items) between the different units with Public Health involved in the response (e.g., laboratory, environmental health, health facilities licensing and certification, press office)
- helping to develop communications intended for the lay public

The typical hepatitis A in a food handler response will require a fellow to work full-time on the response for 1-2 weeks. The initial response to suspected healthcare associated transmission event will take 1 week of full time effort to gather/review medical records, conduct additional interview, and conduct site visits. If healthcare associated transmission is confirmed, then the broader response involved public notification and coordinating testing for additional case detection can take 4-6 weeks of full-time support. The VRU is staffed to conduct these investigations independent of the fellow so it is not required for fellows to participate and there are many opportunities for getting outbreak experience from one of the 70+ other reportable infectious diseases managed within the broader Acute Communicable Disease Control program.

**Please Describe the Fellow's Anticipated Role in the COVID-19 Response – Include Activities and Time Allocation**

This is a challenging question to answer without knowing what the future of the pandemic response looks like, such as whether there will be new variants that force us to continue our current emergency or if transmission declines, thus allowing a pivot to a post-transition phase. At the moment, we expect that the fellow will be protected from the COVID-19 response because it can consume a lot of time and divert time needed to meet the other requirements of the fellowship. However, if a fellow has a strong interest in gaining COVID-19 response experience, we can work to find a specific opportunity based on the needs of the response at the time.

**Please Describe Opportunities for Fellows to Work in Health Equity as well as Incorporating Diversity, Equity, and Inclusion into their Work**

Viral hepatitis incidence is disproportionately concentrated in persons who are corrections involved, experiencing homelessness, or using injection drugs. There is also documented racial/ethnic disparities in access to lifesaving antiviral medications to treat chronic viral hepatitis. Therefore, a core part of VRU activities is to collect and analyze data to better quantify/define the nature of these health disparities, and to conduct additional analysis to determine the mechanisms underlying those disparities. These analyses will be used to support the development of policies and programs to address health disparities. As an example, the fellow will have an opportunity to work with a large data base of all inpatient discharges in LA County to assess trends in hospitalizations for HCV-associated liver complications. We expect that this analysis will demonstrate that persons with private health insurance will have benefited more from

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the advent of HCV antiviral therapy than persons on MediCal. Further, given that certain racial/ethnic groups are more likely to be on MediCal, we can demonstrate the differential access to HCV antiviral access has led to disparities in health-related outcomes, which can support advocacy to improve reimbursement policies.