

UNC Gillings School of Global Public Health 2019 Internship Opportunities with Centers for Disease Control and Prevention – Dengue Branch

About Centers for Disease Control and Prevention – Dengue Branch

The Dengue Branch, located in San Juan, Puerto Rico, provides global leadership in dengue risk assessment, research and effective public health practices. More than 50 million cases of dengue occur annually and 2.5 billion people live in areas at risk. For over 30 years, the Branch has investigated outbreaks and collected, analyzed, and reported dengue cases from Puerto Rico, the U.S. Virgin Islands, and the continental U.S. The Branch processes up to 15,000 specimens annually as the clinical diagnostic laboratory in Puerto Rico, and also serves as the primary reference laboratory for state health departments and the World Health Organization.

As a designated WHO/PAHO Collaborating Center for Dengue and Dengue Hemorrhagic Fever Reference and Research, the Dengue Branch detects and subtypes dengue viral strains; provides quality control services for serological and virological diagnostic tests obtained by national public health laboratories in the Americas; maintains prototype and reference strains of dengue viruses; assists in training on the clinical management of dengue infections and on laboratory techniques necessary for virus isolation, molecular characterization, diagnosis, and related procedures routinely used in the investigation of suspected cases of dengue fever; and participates in outbreak investigations of dengue/dengue hemorrhagic fever (DHF). The Dengue Branch has been actively developing and pilot testing training materials for health care providers to better identify, diagnose and treat dengue cases. The Dengue Branch also provides technical assistance in all aspects of dengue prevention and control.

Mosquito vectors of dengue virus are investigated from a population biology perspective to understand the key ecological factors involved in vector-borne disease transmission and to develop prevention and control measures. The Dengue Branch has capabilities to identify mosquito species and employs Geographical Information Systems, remote sensing, and multivariate statistical techniques to understand the spatial and temporal patterns of vectors and disease.

The Dengue Branch facilitates projects to stimulate the development, improvement, and implementation of new strategies and interventions to improve our understanding of dengue progression and pathogenesis.

Why intern with the CDC?

Students get the opportunity to observe the work that CDC does, including national and international outbreak responses, developing public health guidelines, and collaborating with groups internal and external to CDC in Puerto Rico and elsewhere. The position is supportive of students using their practicum to gather data, which can then be used for their MPH thesis;

however, this possibility depends on the student, their interests, and the project(s) that they will be working on.

2019 Public Health Projects:

1. **COPA (Communities Organized for the Prevention of Arboviruses) Study** is a prospective community cohort seroincidence study that was launched in Ponce, Puerto Rico in early 2018 to measure the impact of novel vector control interventions on reducing infections with dengue, chikungunya, and Zika viruses. **Activities involved** include conducting interviews with and collecting specimens from community members, organizing focus groups, coordinating activities with study partners, and evaluation of data collection protocols.
2. **SEDSS (the Sentinel Enhanced Dengue Surveillance System)** is a hospital-based acute febrile illness surveillance system and clinical research platform that has been in operation in Ponce, Puerto Rico since 2012 and was expanded to San Juan in late 2018. Patients presenting with fever to hospital emergency departments are tested for more than two dozen pathogens. Epidemiologic trends are summarized, and data collected are used to compare clinical and demographic features of patients with different etiologic agents of fever. Various clinical research studies have been nested within SEDSS (e.g., the Zika virus Persistence study; Outcomes of Pre- and Post-natal Zika virus Infection studies; Clinical and Demographic Predictors of Severe Dengue). **Activities involved** include cleaning and analysis of SEDSS data, evaluation of study protocols for improvement, implementation of prospective research studies, and use of pre-existing datasets to ask relevant clinical research questions.

Preferred Assets:

- Positive attitude (required)
- Willingness to work (required), including in the field (highly desired)
- Competency in code: R, SAS or STATA (highly desired)
- Spanish (most staff are bilingual, but fluency in Spanish would be a major asset)

Funding

Students are responsible for flight, transport to and from the office, housing, and food. CDC provides realtors to students who specialize in short term rentals to help with securing housing. The experience will likely cost around \$2,500 - \$5,000. If you need funding, please check out funding resources at <https://sph.unc.edu/global-health/ggg-internships-and-funding/>. The CDC will cover work-related costs (e.g., field work materials, transportation to field, software licenses, etc.).

How to Apply

Send the below documents to globalsolutions@unc.edu by February 21, 2019:

- Cover letter
- CV or Resume
- Letter of recommendation from UNC Gillings faculty member