

# FACT SHEET

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## Naval Medical Research Center Detachment Lima, Peru

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Lima, the cultural and business center of Peru, has been home to the Naval Medical Research Center Detachment (NMRC) for nearly twenty years. The detachment's principle field site is remotely located in Iquitos, on the Amazon River. The physical geography of the country is varied. The coastal strip (3 to 50 miles wide) of land adjacent to the Pacific Ocean is a barren desert with springs and rivers originating in the Sierra region. The Sierra is part of the Andes Cordillera, typically high and without much vegetation, some mountain peaks remain snowcapped year round. The eastern and northeastern part of the country is made up of triple canopy jungle, a small part of the vast Amazon Jungle of South America.

The primary mission of NMRC is to identify and assess infectious disease threats of military relevance in the Southern Joint Command Region. Currently, researchers are determining the most effective means of prevention, diagnosis and treatment of these threat diseases.

Infectious diseases traditionally have been the greatest threat to the health and readiness of Sailors and Marines, and will continue to be as military personnel are deployed around the globe and are confronted by a wide variety of viruses, bacteria, and parasites.

### Research Areas

#### Virology

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- From arboviruses such as Dengue, Venezuelan Equine Encephalitis, Oropouche Fever, and Mayaro Fever, to retroviruses such as HIV, the laboratory continues to evaluate the changing dynamics and epidemiology of these infectious diseases. This research leads to the diagnosis, prevention and treatment methods for deployed forces

#### Parasitology

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- Researchers capitalize on the resources and geographic diversity to identify and characterize parasitic diseases such as malaria and leishmaniasis, which present a threat to military operations throughout tropical regions of the world

#### Microbiology

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- Researchers focus on the endemic disease prevalence to identify and characterize bacterial diseases, focusing on enteric pathogens

#### Entomology

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- Researchers monitor arthropod vectors and their habitats to characterize vectors that present a threat to military operations throughout the tropical regions of the world

## Examples of Accomplishments

- Documented the first cases of human disease associated with Mayaro and Group C arboviruses in Peru
- Discovered the first hantaviruses and three other novel anthropoid borne viruses in Peru
- Epidemiological program to define diarrheal disease in Peru with specific surveillance for cholera, E. coli, and agents of viral gastroenteritis.
- Field-tested an innovative repellent, 30 percent DEET Face Paint. The camouflage product was as effective as the standard repellent and preserved infrared masking capabilities of the face paint
- Identified 5 Culicoides species feeding on humans in the jungle and urban communities of the Amazon rain forest.
- Described the first cases of Venezuelan Equine Encephalitis among civilians and military troops in the Amazon region
- Documented the largest outbreak of Yellow Fever ever recorded in Peru with a mortality rate of nearly 50 percent
- Established epidemiological base and technologic capability to identify and define drug-resistant malaria isolates from sentinel areas.
- Completed a 3-year study to define the vector mosquitoes for Arboviral diseases in the Amazon region of Peru, more than 250,000 mosquitoes were collected and more than 30 Arboviruses isolates were identified
- Field-tested a prototype bednet impregnated with permethrin. Results indicated superior protection.
- Documented the emergence of Dengue Fever as a major cause of morbidity in Peru. This includes the first outbreaks of Dengue-2 in the coastal and Amazon regions
- Testing a diagnostic skin test for leishmaniasis

## Examples of Operational Support

- Conducted diarrheal disease study and provided shipboard laboratory support for UNITAS 97
- Provided logistic and laboratory support to exercise New Horizon 98
- Collected sexually transmitted disease risk behavior data in association with UNITAS 97 port calls
- Provided critical infectious disease threat details to numerous military and DEA units working in the region

