



# Naval Medical Research Unit—No. 3, Cairo

## Fact Sheet

The mission of Naval Medical Research Unit—No. 3 (NAMRU-3) is to study, monitor, and detect emerging and re-emerging disease threats of military and public health importance, and to develop mitigation strategies against these threats in partnership with host nations and international and U.S. agencies in CENTCOM, EUCOM, and AFRICOM areas of responsibility.

- NAMRU-3's clinical laboratory is accredited by the College of American Pathologists (CAP).
- In the past decade, NAMRU-3 researchers have published over 250 articles in international, peer-reviewed medical journals.

## Research Areas

### Bacterial and Parasitic Disease Research Program (BPDRP)

BPDRP primarily investigates and surveys bacterial, parasitic, and viral etiologic agents of diarrheal diseases as well as bacterial and protozoal pathogens associated with acute febrile illnesses. The Program is subdivided into six functional units dedicated to clinical epidemiology, classical bacteriology, molecular biology, parasitology, serology, and mycobacteriology (including epidemiological and molecular characterization of multi-drug resistant tuberculosis). BPDRP serves as a regional rotavirus and malaria reference laboratory for the World Health Organization. Specific surveillance efforts for diarrheal and sexually transmitted infections have been conducted in partnerships with Camp Lemonnier (Djibouti), Cairo University, and Ain Shams University.

### Viral and Zoonotic Disease Research Program (VZDRP)

VZDRP work has focused on viral causes of respiratory diseases and arboviruses, especially those at the animal-human interface, to include Dengue, Rift Valley Fever, Crimean Congo Hemorrhagic Fever, Chikungunya, and West Nile Virus. VZDRP is a WHO reference center for avian and human H5N1 influenza, and a WHO collaborating center for HIV. VZDRP collaborates with national influenza centers and public health laboratories in

12 countries, with capabilities for virus isolation, molecular diagnostics, and gene sequencing. VZDRP personnel maintain BSL-3 laboratory capacity and a Biological Select Agents and Toxins (BSAT) program, and provide 24/7 testing capability for outbreak support. VZDRP assists WHO-Eastern Mediterranean Region in response to disease outbreaks in the region.

### Vector Biology Research Program (VBRP)

Researchers provide vector outbreak assistance for arboviruses, malaria, and leishmaniasis. Arthropod vectors of interest are sand flies, mosquitos, and ticks: VBRP maintains a sand fly and mosquito insectaries. Researchers perform arthropod vector speciation using PCR and morphological vector identification. Other areas of research are insecticide resistance, vector mapping, vector control, personal protection measures, vector surveillance methods, and bio-ecology.

### Global Disease Detection and Response Program (GDDRP)

GDDRP is embedded within NAMRU-3 as one of ten CDC Global Disease Detection centers worldwide. Current programs include: International Emerging Infection Program (IEIP), Field Epidemiology and Training Program (FETP), Influenza, Hospital Infection Control, and Laboratory Capacity Building. GDDRP provides public health surveillance and epidemiology expertise to assist regional ministries of health in building capability to detect, prevent, and respond to infectious diseases of international importance. GDDRP has more than 30 ongoing projects in 11 countries.

### Ghana Detachment

Involved in mil-to-mil capacity building in hospitals and national influenza centers in Ghana, Togo, Côte d'Ivoire, Liberia, Burkina Faso and Nigeria. Research focuses on cutaneous leishmaniasis, acute febrile illness, avian and pandemic influenza as well as sexually transmitted diseases. Detachment has run phase-1 trials of EBA-174 R-II malaria vaccine and characterized molecular markers of drug resistance of *P. falciparum* and human seroprevalence of Lassa fever virus in Ghana. Other areas of study are integrated human-animal vector surveillance, integrated hospital-based infectious disease surveillance, and vector control studies.