The Naval Medical Research Center focuses on solutions to operational medical problems such as battlefield neurotrauma and wound infections, decompression sickness, naturally occurring infectious diseases, and biological threat agents; and is home to the DoD bone marrow registry.

The NMRC laboratory is co-located in the Daniel K. Inouye Building with the Walter Reed Army Institute of Research at the U.S. Army Forest Glen Annex, Silver Spring, Maryland. NMRC also operates a Biological Defense Research Directorate at the U.S. Army Ft. Detrick Garrison in Frederick, Maryland.

**MISSION**

To conduct health and medical research, development, testing, evaluation, and surveillance to enhance deployment readiness of DoD personnel worldwide. NMRC is a premier research organization with the vision of World-class, operationally relevant health and medical research solutions.

**VISION**

Provide world-class, operationally relevant health and medical research solutions—anytime, anywhere.

**Commander:**
CAPT Adam W. Armstrong  
Medical Corps  
United States Navy

**Executive Officer:**
CAPT Franca R. Jones  
Medical Service Corps  
United States Navy
Infectious Disease:
The geographical distribution of a disease; the rapid emergence of drug resistance; the lack of a vaccine, treatment, or other control measures; the mode of transmission; and the medical impact on operations determine the military importance of infectious diseases. Research focuses on minimizing the impact of infectious diseases by preventing infection or clinical diseases. Researchers focus on malaria, enteric diseases, viral and rickettsial diseases and combat related wound infections. For most infectious diseases, the best approach is a vaccine. Researchers can develop a vaccine from the conceptual stage through “test tube” evaluation, laboratory model testing, human volunteer safety and immunogenicity trials to final large-scale volunteer field trials to prove efficacy as required for FDA licensure. Field testing is made easier by collaborating with Navy Medicine’s overseas laboratories where the target infectious diseases are highly endemic.

Operational and Undersea Medicine:
Current studies focus on undersea medicine, neurotrauma and regenerative medicine. In undersea medicine researchers study interventions to improve performance and reduce injury in deployed naval forces engaged in undersea occupations. They are developing cutting edge technologies to identify, prevent and treat decompression sickness as well as pulmonary and central nervous system toxicity associated with exposure to hyperbaric and hypobaric oxygen. They are also assessing the physiologic effects of extreme environments on performance capabilities and work to find effective tools for mitigation. In the area of neurotrauma, researchers conduct studies on a variety of topics pertinent to the protection, resuscitation, and en route care of combat casualties with traumatic injuries to the nervous system either alone or in combination with other traumas such as hemorrhage. The primary focus is on injuries occurring in austere circumstances with anticipated delayed access to definitive care. The regenerative medicine team maintains active research efforts in translational and precision medicine. They conduct both pre-clinical and clinical studies in wound healing, tissue regeneration, and sepsis following complex trauma. By identifying key protein and gene expression patterns involved in wound healing and inflammation, they work to develop advanced diagnostics and treatment protocols to enhance overall outcomes for combat casualties.

Biological Defense Research:
Since World War I U.S. military medical researchers have focused on how to defend against the threat of biological and chemical warfare. Today, NMRC is a leader in the detection and confirmatory analysis of infectious disease agents of public health importance especially select agents. Researchers are focusing on international field microbiology, genomics and bioinformatics, immunodiagnostics, molecular diagnostics, and clinical research. For example researchers perform high-throughput genomic sequencing, develop faster and more accurate bioinformatics tools to facilitate genomic research in laboratory or field conditions, and have a particular focus on phage genomics and phage-based medical countermeasures. In 1991, NMRC developed the first portable laboratory capable of conducting molecular detection. This unique laboratory allows military personnel in the field to quickly conduct confirmatory assays to determine whether biological agents are present. It was deployed in Desert Storm/Desert Shield, and similar capabilities were deployed in Operation Iraqi Freedom. It was a major asset during the anthrax attack in 2001 and the Ebola crisis in Africa. The portable lab weighs approximately 1,000 pounds, requires three people to operate, and holds supplies sufficient to process samples with PCR and ELISA testing. It also includes protective gear for the personnel, a generator, a freezer, field lighting, and field uninterruptible power supply.

Research Services:
The Research Services Directorate (RSD) aims to provide executive services critical to the administration and performance of laboratory research within the Navy Medical Research and Development (NMR&D) Enterprise and the Naval Medical Research Center and to facilitate and promote the mission of the Command both intramurally and with related extramural collaborators in the areas of: Intellectual Property, Pathology, Technology Transfer, Research Management, Acquisition and Program Management, Bone Marrow, Laboratory Animal Medicine & Science.