

Infectious Disease Program



Historically, infectious diseases have caused more evacuations on the battlefield than traumatic wounds. They impact military unit readiness significantly and demand enormous resources (man hours and funding) in the DoD health system. Infective agents not only impact healthy Service members, but also those wounded as a result of contamination from the environment and medical evacuation system, sometimes resulting in death. The development of medical tools and technologies that prevent mission-related illness or reduce the severity of disease could potentially save lives, decrease the loss of man-days, and increase the likelihood of restoring Warfighters to full duty faster.



This is the core focus of the Infectious Disease program which is shared between the Department of Defense (DoD) and the Medical Technology Enterprise Consortium (MTEC). Together, we plan to invest in innovative medical products – vaccines, therapeutics, antibiotics, diagnostics, and models – that maintain good health and protect those who serve in the U.S. military against naturally occurring infectious diseases. We intend to save lives through the prevention or treatment of infectious diseases and aim to reduce symptoms as well as the associated complications of infection. This program will benefit U.S. Service members, Veterans, other Military Health System beneficiaries, and the civilian population. For example, the prevention and treatment of emerging or newly identified diseases that have serious consequences for the civilian population, such as infection by the Zika or Ebola viruses, are also included in the mission of our medical research. In fact, the first Zika virus vaccine to advance into production for evaluation in a human clinical trial was jointly developed by the U.S. military and academia.

Medical Technology Enterprise Consortium (MTEC):

- Is a non-profit organization charged with bringing medical solutions to industry that protect, treat, and optimize warfighters' health, performance, and quality of life.
- Provides a public-private partnership strategy to push technological innovation through the "valley of death" between concept and viable product by funding the most promising advances and supporting the transition to clinical use.
- Serves as the lever that efficiently aligns public priorities and resources with the best opportunities for transformational R&D that benefits both injured military members and civilians.
- Funds potential infectious disease solutions (e.g., vaccines, therapeutics, diagnostics, etc.) that can drive industrial interest toward final FDA approval and market production.

- Transforms the lives of many by partnering with foundations, corporations, and individuals who support our mission through philanthropy.

The following areas of R&D are of highest priority:

This technology area focuses on infectious diseases encountered by Service members during deployment and evacuation. Research and development efforts may include vaccines, anti-parasitic drugs, deployable field clinical diagnostics (human and vector), prophylactics and novel therapeutics to treat multi-drug resistant organisms in combat wound infections, and vector control – pertinent to naturally occurring endemic diseases with demonstrated or potential capability to decrease military operational effectiveness. Specific areas of interest include, but are not limited to:

- The use of interdisciplinary approaches including systems biology and synthetic biology to advance prototype development efforts to combat antibiotic-resistant bacteria:
 - Disease surveillance to detect and control antibiotic-resistance.
 - Improved, affordable diagnostics that rapidly detect and/or characterize antibiotic-resistant bacteria.
 - Development of novel antibiotic drugs or other non-traditional therapeutics for the treatment of infections caused by antibiotic-resistant bacteria.
 - Development of novel vaccines to prevent the spread of resistant bacteria.
 - Advancement of innovative therapeutic approaches to combat or circumvent antibiotic-resistance.
- The development of a Dengue virus human challenge model to improve clinical test procedures. MTEC plans to facilitate the development of this model, which if successful, will revolutionize the means to test candidate technologies by speeding the time required for evaluation and reducing the overall time to licensure of potential vaccines and therapeutic drugs.



How Can You Help?

These efforts have significant cost, and although the Government is supporting portions of this critical work, **major private philanthropic engagement could accelerate progress dramatically.** MTEC has the ability to work with foundations, corporations, and individuals whose goals align with our mission. There are several technologies at the forefront that are ready to enter the clinic where monetary requirements grow and risk increases. Our purpose is to help alleviate that gap and transition these promising technologies through the “valley of death” and into the hands of competent, world-renowned industry leaders, who can take the final steps toward FDA approval, market production, and ultimately provide solutions to injured military personnel, veterans, and civilians.

The opportunity to join a public-private research partnership whose vision is to bring new products – and life-altering impact – from the bench to the market is here. Your commitment to a financial partnership with MTEC could play a crucial role in making this vision a reality.

For more information and assistance with making a gift or forming a partnership with MTEC, please contact: Stacey Lindbergh, Executive Director, <execdirect@mtec-sc.org>, 843-760-3566
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