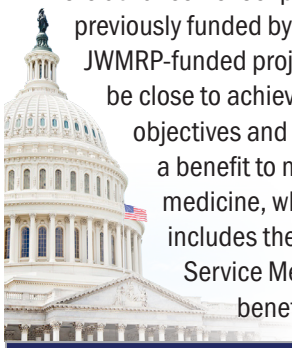
JOINT WARFIGHTER MEDICAL RESEARCH PROGRAM

CDMRP
DEPARTMENT OF DEFENSE
CONGRESSIONALLY DIRECTED MEDICAL RESEARCH PROGRAMS

WHAT IS THE PROGRAM'S CONGRESSIONAL INTENT?

Established in FY12, Joint Warfighter Medical Research Program (JWMRP) funds are intented to augment and accelerate high-priority military medical priorities by supporting the advancement of projects previously funded by the DOD. JWMRP-funded projects should be close to achieving their objectives and yielding a benefit to military medicine, which includes the needs of Service Members and beneficiaries.



FY22 Congressional Appropriations
$40M
FY22 Research Investment
Military Medical Research and Development Award $19,845,533
Advanced Development Augmentation Funding..... $14,500,000
Modification to ongoing awards . $2,239,897
Total: $36,585,430
FY22 Withholds and Management Costs
USAMRDC $773,300
SBIR/STTR $1,335,000
Mgt Costs (3.45%)..... $1,306,270
Total: $3,414,570

WHY IS THERE A NEED FOR THE JOINT WARFIGHTER MEDICAL RESEARCH PROGRAM?

It can take 10-15 years to advance a drug from bench to beside[1]

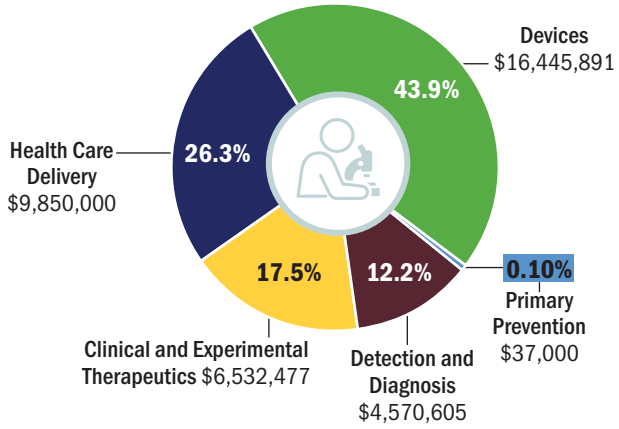
Many technologies fail to cross the "valley of death," the gap between basic science and clinical practice where translational research is supported

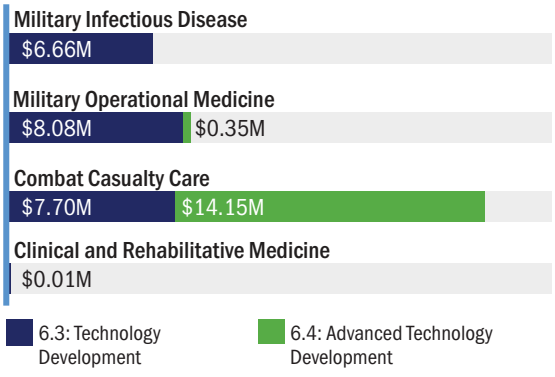
There is an urgent need to support critical translational research to shorten the time for clinical implementation

Military medicine not only promotes a medically ready force but also drives innovations in to civilian clinical practice,[2] benefiting beneficiaries and the American public

HOW IS THE PROGRAM ADVANCING WARFIGHTER-SPECIFIC MEDICAL RESEARCH?

The JWMRP directed FY22 investments into five research types (left) aligned to three military-relevant areas of interest (right) for **technology development and advanced development and prototypes.**





[1] Cancer Research UK. 2022. How Long a New Drug Takes to Go Through Clinical Trials. https://www.cancerresearchuk.org/about-cancer/find-a-clinical-trial/how-clinical-trials-are-planned-and-organised/how-long-it-takes-for-a-new-drug-to-go-through-clinical-trials. | [2] Hill, Lanessa. 2023. Researchers unite for warfighters at Combat Casualty Care conference. U.S. Army Medical Research and Development Command. https://mrdc.health.mil/index.cfm/media/articles/2010/ATACCC_Conference_2010.

PROGRAM MISSION: *Support the logical continuation of Department of Defense-funded research and development projects that augment and accelerate high-priority medical requirements to meet the needs of Service Members and other Military Health System beneficiaries*

HOW IS THE PROGRAM MAKING AN IMPACT?

Military Operational Medicine

Preclinical Development of a Novel Medical Device for Total Meniscus Reconstruction

Michael Dunn, Ph.D., Rutgers University

Meniscal tears occur approximately 10 times more frequently among military personnel than in civilians, negatively affecting readiness and resilience and increasing cost of care. In collaboration with manufacturing and commercialization partner NovoPedics, Inc., Dunn's team optimized and validated small-sale production, packaging, and sterilization of **MeniscoFix™, a total meniscus replacement device** to **restore mobility and prevent onset of degenerative post-traumatic osteoarthritis**. MeniscoFix promotes tissue repair, remodeling, and maturation in response to biomechanical loading of the knee joint. Pending completion of FDA required pre-clinical and clinical testing, **MeniscoFix has the potential to accelerate return to duty, improve quality of life, and reduce long-term health costs.**

Combat Casualty Care

Defining Oxygen Requirements for Combat Casualty Care

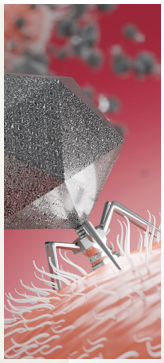
Adit Ginde, M.D., University of Colorado School of Medicine

In combat casualty care, oxygen therapy is critical for preventing and treating complications caused by oxygen deficiency, called hypoxemia, but it poses a risk of causing damage from excess oxygen, called hyperoxemia. Expanding on a pilot trial funded by the Special Operations Command to define the oxygen requirements for critically injured patients, this research aims to measure the impact of normal oxygen levels, called normoxemia, on oxygen requirements and patient outcomes. In a completed **multi-center randomized trial of over 13,000 major trauma patients at eight trauma centers, the researchers developed an oxygen therapy protocol that successfully improved the number of days alive and off supplemental oxygen and number of days in the hospital, while reducing the amount of supplemental oxygen required to treat these patients**. This strategy has the potential to **positively impact resource planning** and supplemental oxygen use in combat.

Military Infectious Diseases

Development of a Bacteria-Killing Therapeutic for Treating Staph Infections

Mina Pastagia, M.D., Armata Pharmaceuticals



Antibiotic resistance and complicated bacterial infections make it a challenge to treat combat extremity wounds. This, in turn, negatively impacts operational readiness. This project is developing and evaluating **AP-SA02, a two-phage therapeutic cocktail that targets the bacteria Staphylococcus aureus, can penetrate biofilms, and can be combined with standard-of-care antibiotics**. Armata Pharmaceuticals, which produces AP-SA02, made it available for use in an ongoing clinical trial. Upon further clinical development and with FDA approval, this biologic alternative to antibiotics **can potentially save and improve lives and accelerate return to duty.**

"The research investments supported through the JWMRP deliver promising medical solutions that directly impact the health and readiness of our Warfighters. The program is guided by diverse stakeholders, representing the scientific and clinical communities and end users, who work together to understand where the most critical gaps are and ensure that the program is investing resources in those areas where we can have the greatest impact, whether it's in the clinic or on the battlefield."

U.S. Navy Capt. Tatana Olson, Defense Health Agency Research and Engineering Directorate, Programmatic Panel Member, FY22-FY23

For more information, visit: https://cdmrp.health.mil/jwmrp