

Defense Health Program
 Fiscal Year (FY) 2012 Budget Estimates
 Exhibit R-2, DHP RDT&E Budget Item Justification

Appropriation/Budget Activity
 Defense Health Program/BA: 2

DATE: February 2011
 R1 Item Nomenclature: 6
 Medical Technology Development
 0603115HP

COST: (Dollars in Millions)

	2010 Actual	2011 Estimate	2012 Estimate	2013 Estimate	2014 Estimate	2015 Estimate	2016 Estimate
Total PE 0603115	782.755	133.376	181.042	188.735	239.962	262.272	265.992
CoE-Breast Cancer Center of Excellence (Army)	5.032	9.980	10.160	10.342	10.529	10.718	11.105
CSI-Breast Cancer Center (Army)	9.690	0.000	0.000	0.000	0.000	0.000	0.000
CoE-Gynecological Cancer Center of Excellence (Army)	4.514	8.720	8.877	9.037	9.199	9.365	9.703
CoE-Gynecological Cancer Center of Excellence (USUHS)	0.053	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Gynecological Cancer Center at Walter Reed AMC (Army)	1.180	0.000	0.000	0.000	0.000	0.000	0.000
CoE-Integrative Cardiac Health Care Center of Excellence (Army)	3.308	3.680	3.746	3.814	3.882	3.952	4.095
CSI-Integrated Cardiac Health Care at Walter Reed AMC (Army)	3.510	0.000	0.000	0.000	0.000	0.000	0.000

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COE-Neuroscience Center of Excellence (USUHS)	1.478	0.000	1.892	1.926	1.961	1.996	2.030
CoE-Pain Center of Excellence (Army)	2.313	3.680	2.838	2.889	2.941	2.994	3.102
CSI-Pain and Neuroscience Center (WRAMC/WRNNMC) (Army)	4.000	0.000	0.000	0.000	0.000	0.000	0.000
CoE-Prostate Cancer Center of Excellence (USUHS)	3.205	7.285	7.581	7.890	8.211	8.545	8.844
CSI-Prostate Cancer Center of Excellence (USUHS)	0.620	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Amyotrophic Lateral Sclerosis (ALS) (Army)	7.500	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Army Reserve Component Personal Empowerment Package (ARCPEP) (Army)	3.375	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Assistive Technology Research (Army)	3.000	0.000	0.000	0.000	0.000	0.000	0.000

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CSI-Autism Research (Army)	8.000	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Bone Marrow Failure Disorder Research (Army)	3.750	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Genetics Studies of Food Allergies (Army)	1.875	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Global HIV/AIDS Prevention (Navy)	10.000	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Gulf War Illness Peer Reviewed Research Programs (Army)	8.000	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Hand Transplant Research (Army)	4.500	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Hawaii Federal Healthcare Network (Army)	18.000	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Lung Injury Management Program (Navy)	1.160	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Minority Health Prostate Cancer Outreach (Army)	0.800	0.000	0.000	0.000	0.000	0.000	0.000

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CSI-Multiple Sclerosis (Army)	4.500	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Muscular Dystrophy Research (Army)	3.750	0.000	0.000	0.000	0.000	0.000	0.000
CSI-New National Diabetes Model Program (Air Force)	15.000	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Next Generation Simulation Training for Para rescue (Air Force)	1.583	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Ovarian Cancer Research (Army)	18.750	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Patient Care Improvement Project at Kessler Med Ctr (Air Force)	3.280	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Peer Reviewed Breast Cancer Research (Army)	150.000	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Peer Reviewed Medical Research Program (Army)	50.000	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Peer Reviewed Neurofibromatosis (NF) Research (Army)	13.750	0.000	0.000	0.000	0.000	0.000	0.000

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CSI-Peer Reviewed Neurotoxin Exposure Treatment Parkinson's Research Program (Army)	25.000	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Peer Reviewed Prostate Cancer Research (Army)	80.000	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Peer-Reviewed Cancer Research Program (Army)	15.000	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Peer-Reviewed Lung Cancer Research Program (Army)	15.000	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Peer-Reviewed Orthopedic Research (Army)	22.500	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Peer-Reviewed Spinal Cord Research Program (Army)	11.250	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Peer-Reviewed Vision Research (Army)	3.750	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Research in Alcohol and Substance Use Disorders (Army)	6.375	0.000	0.000	0.000	0.000	0.000	0.000

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CSI-Security Solutions from Life in Extreme Environments Ctr (USUHS)	0.800	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Traumatic Brain Injury/Psychological Health (TBI/PH) (Army)	111.857	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Traumatic Brain Injury/Psychological Health (TBI/PH) (Navy)	7.000	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Traumatic Brain Injury/Psychological Health (TBI/PH) (USUHS)	1.014	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Peer Reviewed TBI/PH (Air Force)	0.129	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Tuberous Sclerosis Complex (TSC) Research (Army)	6.000	0.000	0.000	0.000	0.000	0.000	0.000
CSI-U.S. Military Cancer Institute (USUHS)	5.000	0.000	0.000	0.000	0.000	0.000	0.000
CSI-Web Based Teaching Programs for Military Social Work (Army)	3.200	0.000	0.000	0.000	0.000	0.000	0.000

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Deployed Warfighter Protection (Army)	4.834	5.202	5.306	5.412	5.520	5.630	5.833
Enroute Care & Advanced Molecular Diagnostics Research & Development (Air Force)	0.000	0.000	3.348	4.050	2.530	1.285	1.146
Expeditionary Medicine, Directed Energy Research & Development (Air Force)	0.000	0.000	2.871	4.843	8.770	7.669	3.785
Force Health Protection, Advanced Diagnostics/Therapeut ics Research & Development (Air Force)	0.000	0.000	15.333	11.313	10.301	10.422	10.821
GDF-Medical Technology Development (GDF-MTD)	6.747	26.763	50.747	58.488	109.164	135.070	139.797
Hard Body Armor Testing (TMA)	0.000	0.000	0.850	0.600	0.000	0.000	0.000
Human Performance Research & Development (Human Physiology, Evaluation & Optimization) Research (Air Force)	0.000	0.000	2.485	4.301	4.102	6.313	11.232

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Medical Development (Lab Support) (Navy)	32.630	34.208	34.450	34.967	35.682	36.412	37.713
Operational Medicine Research & Development (Air Force)	6.742	7.750	8.218	8.580	8.242	9.024	8.944
Operational Medicine Research & Development (Army)	0.500	0.000	0.000	0.000	0.000	0.000	0.000
Regenerative Medicine (USUHS)	3.318	7.000	7.140	7.283	7.428	7.577	7.842
Underbody Blast Testing (TMA)	0.000	0.000	15.200	13.000	11.500	5.300	0.000
USAF Advanced Diagnostics & Therapeutics (Air Force)	6.438	6.900	0.000	0.000	0.000	0.000	0.000
USAF Center for Advanced Molecular Diagnostics (CAMD) (Air Force)	4.721	4.444	0.000	0.000	0.000	0.000	0.000
USAF Directed Energy Injury/Human Effects (Air Force)	1.072	1.100	0.000	0.000	0.000	0.000	0.000

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USAF Human Physiology, Systems Integration, Evaluation & Optimization Research (Air Force)	5.303	6.664	0.000	0.000	0.000	0.000	0.000
USAMRIID Laboratory (Army)	16.111	0.000	0.000	0.000	0.000	0.000	0.000
WWE-Medical Technology Development (WWE-MTD)	10.988	0.000	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: For the Navy Bureau of Medicine and Surgery, this program element includes RDT&E, DHP funds for operating and miscellaneous support costs at RDT&E, DHP laboratories and other installations, including facility and civilian personnel costs not directly chargeable to RDT&E, DHP projects. It also includes RDT&E, DHP funds for RDT&E, DHP laboratories and facilities for research, support, equipment and other investment and materiel support costs not directly chargeable to RDT&E, DHP projects. It excludes military manpower and related costs, non-RDT&E, N base operating costs, and military construction costs which are included in other appropriate programs.

Costs related to laboratory management, overhead and salaries of government employees are paid from science/research competitively awarded funding. The OCONUS laboratories conduct focused medical research on vaccine development for Malaria, Diarrhea Diseases, and Dengue Fever, in addition to entomology, HIV studies, surveillance and outbreak response under the GEIS program and risk assessment studies on a number of other infectious diseases that are present in the geographical regions where the laboratories are located. The CONUS laboratories conduct research on Military Operational Medicine, Combat Casualty Care, Diving and Submarine Medicine, Infectious Diseases, Environmental and Occupational Health, Directed Energy, and Aviation Medicine and Human Performance.

Global HIV/AIDS Prevention - Program emphasis is placed on (1) building a national research infrastructure by funding large, multidisciplinary program projects focused on detection; (2) encouraging innovative approaches to research by funding new ideas and technology with or without supporting preliminary data; and (3) recruiting new, independent investigators for careers in research, as well as more senior investigators new to the research field. Congressionally directed research in FY 10 includes HIV prevention educational activities undertaken in connection with International Security military training, exercises, and humanitarian assistance activities.

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The Lung Injury Management initiative focuses on creating and maintaining a lung injury program to promote and conduct research pertaining to the active duty military population, and related to the pathophysiology, prevention, and treatment of lung injury and the resultant short and long term morbidity and mortality. The mission of the center is to develop new and innovative strategies for protection and recognition of traumatic lung injury, specifically blast lung injury which remains the most common cause of injury on the battlefield. The focus will be on developing operationally relevant treatment and diagnostic tools. Secondly, to identify biomarkers that will assist in the rapid diagnosis of acute lung injury and to utilize these markers to track the effects of protective and restorative therapies. Lastly, to enhance the understanding of the pathophysiology of lung injury resulting from infection, trauma, and environmental exposures as well as the mechanisms involved in recovery.

CSI - Peer Reviewed TBI - Mild Traumatic Brain Injury - Clinical trial entails the development, initiation, operation, and analyses, including publication, from a multi-center prospective, randomized controlled trial, comparing multiple outcomes of enrolled subjects more than four months after mild to moderate traumatic brain injury, exposed to a series of daily hyperbaric oxygen sessions or to sham hyperbaric chamber exposures. The project will compare and assess the long-term benefits of hyperbaric oxygen therapy on service members with mild traumatic brain injury.

Funding in this program element supports the Air Force Medical Service Medical Research & Development program to address the Air Force Surgeon General's (AF/SG's) vision for medical modernization and the capabilities and objectives outlined in the AFMS Concept document & AFMS CRRA in the defined modernization thrust areas of 1) Expeditionary Medicine; 2) Enroute Care; 3) Force Health Protection; 4) Operational Medicine and 5) Human Performance.

For the Air Force Medical Service elements, the Medical Research and Development program provides Advanced Concept and Prototype Development funding to support the Research, Development, Test and Evaluation efforts needed to address ongoing and planned modernization initiatives for knowledge and/or materiel-based solutions to critical capability gaps and mission needs aimed to:

- 1) Improve recovery of individuals from illness and/or injury; enhance clinical response (modernized diagnostics, therapeutics, and critical care air transport capabilities), treatment and management, and return of individuals to duty status. Enhance human health and performance to maximize effectiveness and ability to operate;
- 2) Improve human ability (i.e. visual, auditory, cognitive) to operate under adverse environments to include CBRNE, directed energy, and high operational tempo (human system integration initiatives will play a pivotal role in addressing these requirements);
- 3) Enhance capabilities for the maintenance of a fit and healthy force (example mission foods/special diets for the warfighter based on mission scenarios);
- 4) Enhance Force Health Protection through advanced Health Surveillance capabilities emphasizing improved diagnostics;
- 5) Improve healthcare delivery

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effectiveness (diagnosis, treatment) through Advanced diagnostics, therapeutics & forensics with emphasis on organ systems, diseases, vectors, toxins, occupational toxicology and analytical systems-specific technologies such as: molecular diagnostics, surface detection to molecule sensitivity, gene therapy, miniaturization-hand held/point of care delivery tools, and surveillance capabilities; 6) Optimize warfighter performance through effective Human Systems Integration in all environments; maintain warfighter orientation and awareness; and providing technologies for the detection, prevention, and mitigation of adverse human effects; a. Optimization efforts will focus on: hydration, nutrition, musculoskeletal, fatigue, cognitive, and fitness factors; b. Orientation and awareness efforts will address: spatial disorientation countermeasures, ocular enhancement, auditory enhancement, and proprioceptive enhancement issues; 7) Improve clinical processes, methods, tools and techniques for prevention, diagnosis, treatment, and rehabilitation of critically wounded warriors, addressing the needs for advanced devices and protocols for trauma resuscitation, enroute critical care air transport, organ failure and intervention, TBI, PTSD, wound care, pain, infection & clinically-based visual acuity/cognitive assessments ; 8) Address injury/effects to Humans from Directed Energy (DE), with emphasis on injury /effect detection, identification, quantification and mitigation (DIQM).

For the Army Medical Command, through the Armed Forces Pest Management Board (AFPMB), the Deployed Warfighter Protection project provides for the development of new or improved protection of ground forces from disease carrying insects. The focus of this program is to: develop new or improved systems for controlling insects that carry disease under austere, remote, and combat conditions; understand the modes of action of insecticidal activity and develop new compounds with greater effectiveness and/or higher user acceptability; develop new topical and spatial repellent systems for effectiveness in military situations; develop new methods or formulations for treating uniform materials to prevent insect biting; and expand the number of active ingredients and formulations available for safe, insecticidal application.

Four Centers of Excellence (CoE) have also been established. These include the Breast Cancer CoE, Gynecological CoE, Integrative Cardiac Health Care CoE, and Pain CoE.

The Breast Cancer CoE (Army) provides a multidisciplinary approach as the standard of care for treating breast diseases and breast cancer. This approach integrates prevention, screening, diagnosis, treatment and continuing care, incorporation of advances in risk reduction, biomedical informatics, tissue banking and translational research. The project is based on a Discovery Science paradigm. This approach leverages high-throughput technology and our unique clinically well-characterized tissue repository with advances in biomedical informatics leading to hypothesis-generating discoveries. These outcomes are then tested in hypothesis-driven experiments.

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The Gynecological CoE (Army) focuses on characterizing the molecular alterations associated with benign and malignant gynecologic disease and facilitates the development of novel early detection, prevention and novel biologic therapeutics for the management of gynecologic disease. The objective of this research is to reduce the incidence, morbidity, and mortality of gynecologic diseases among all military beneficiaries.

The Integrative Cardiac Health Project (ICHP) CoE (Army) uses cutting edge patient centric approaches to comprehensive cardiac event prevention and molecular research to detect cardiovascular disease at an early stage. The goal is to find new genes that significantly increase risk for heart attack in military beneficiaries and identify molecular markers of obesity and weight loss.

The Pain CoE (Army) research examines the relationship between acute and chronic pain and focuses on finding, implementing, and evaluating the most effective methods of relieving the acute pain caused by combat trauma and the effect this has throughout the continuum to rehabilitation and reintegration.

For FY10 a one-time requirement was established to provide funds to support USAMRIID initial outfitting research equipment and transition costs related to their new MILCON. Funds were also provided in FY10 for USAF Operational Medicine Research & Development.

The Army Medical Service also received Congressional Special Interest (CSI) directed research programs. The strategy for the FY10 Congressionally directed research is to stimulate innovative research through a competitive, peer-reviewed research program, and focused medical research at intramural and extramural research sites. Specific research efforts include Amyotrophic Lateral Sclerosis (ALS); Army Reserve Component Personal Empowerment Package (ARCPEP); Assistive Technology Research; Autism Research; Bone Marrow Failure Research; Breast Cancer Center at Walter Reed Army Medical Center (WRAMC); Duchene Muscular Dystrophy; Genetics Studies of Food Allergies; Global HIV/AIDS Prevention; Gulf War Illness Peer Reviewed Research; Gynecological Cancer Center at WRAMC; Hand Transplant Research; Hawaii Federal Health Network; Integrated Translational Prostate Cancer Center; Integrative Cardiac Health Care; Lung Injury Management Program; Minority Health Prostate Cancer Outreach; Multiple Sclerosis; National Diabetes Model Program; Pain & Neuroscience Center; Patient Care Improvement Project at Keesler Medical Center; Peer Reviewed Cancer Research Program; Peer Reviewed Lung Cancer Research; Peer Reviewed Orthopedic Research; Peer Reviewed Spinal Cord Research; Peer Reviewed Vision Research; Peer Reviewed Neurofibromatosis Research; Peer Reviewed Neurotoxin Exposure Treatment Parkinson's Research; Peer Reviewed Ovarian Cancer Research Program; Peer Reviewed Breast Cancer Research; Peer Reviewed Prostate Cancer Research; Peer Reviewed Medical Research Program; Peer Reviewed Traumatic Brain Injury/Psychological Health (TBI/PH) Research; Research In Alcohol/Substance Use Disorders; Security Solutions from Life in Extreme Environments Center; Tuberous Sclerosis Complex (TSC); US Military Cancer Institute; and the

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Web-Based Teaching Programs for Military Social Work. Because of the CSI annual structure, out-year funding is not programmed.

For the Uniformed Services University of the Health Sciences (USUHS), Medical Development programs include the Prostate Cancer Center of Excellence, the Center for Neuroscience and Regenerative Medicine, the Neuroscience Center of Excellence, and Congressional Special Interest medical research programs.

For the Uniformed Services University of the Health Sciences (USUHS), the Prostate Cancer Center of Excellence (CoE), formerly a Congressional Special Interest program, was chartered in 1992 to conduct basic, clinical and translational research programs to combat diseases of the prostate. The program's mission is fulfilled primarily through its three principal programs- the Clinical Translational Research Center, the Basic Science Research Program and the Tri-Service Multicenter Prostate Cancer Database which encompasses its clinical research work with other participating military medical centers. These affiliated sites contribute data and biospecimens obtained from prostate cancer patients and participate in clinical trials.

For the Uniformed Services University of the Health Sciences (USUHS), the Security Solutions from Life in Extreme Environments Center (SSLEEC) researches mechanisms by which extremely radiation-resistant microorganisms survive doses of radiation orders of magnitude greater than what humans can withstand, to design more effective treatments for radiation countermeasures.

For the Uniformed Services University of the Health Sciences (USUHS), the United States Military Cancer Institute (USMCI) is a tri-service program whose goal is to initiate, develop, coordinate and enhance multi-institutional cancer research, education and care within the military system.

For the Uniformed Services University of the Health Sciences (USUHS), the Center for Neuroscience and Regenerative Medicine (CNRM) brings together the expertise of clinicians and scientists across disciplines to catalyze innovative approaches to traumatic brain injury (TBI) research. CNRM Research Programs emphasize aspects of high relevance to military populations, with a primary focus on patients at the Walter Reed and National Naval Medical Centers.

For the Uniformed Services University of the Health Sciences (USUHS), the Neuroscience Center of Excellence (CoE), formerly a Congressional Special Interest program, was chartered in 2002 to conduct basic, clinical and translational research studies of militarily relevant neurological disorders affecting U.S. service members and military medical beneficiaries. The Center's mission is to improve prevention, diagnosis and treatment of neurological disorders that directly affect warfighters through a multi-site research program that collaborates broadly with military, civilian and federal medical institutions.

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For the Uniformed Services University of the Health Sciences (USUHS), traumatic brain injury and psychological health (TBI/PH) funds are provided for the study to identify the genetic variations associated with phantom limb pain. This study will investigate the underlying molecular genetics mechanisms of phantom limb pain (PLP) in amputees and ultimately aid development of new analgesics in order to better treat chronic PLP.

For the Uniformed Services University of the Health Sciences (USUHS), the Gynecological Cancer Center of Excellence (COE) will develop highly effective diagnostic, prevention and treatments for gynecologic tumors for both the military and their dependents.

For the Uniformed Services University of the Health Sciences (USUHS), USUHS goals for Congressional Special Interest medical research programs are: (1) building a national research infrastructure by funding large, multidisciplinary program projects focused on detection and disease/injury prevention and treatment; (2) conducting research into biomedical strategies for preventing, treating, assessing and predicting the health effects of human exposure to ionizing radiation; (3) encouraging innovative approaches to research by funding new ideas and technology with or without supporting preliminary data; and (4) recruiting new, independent investigators for careers in research, as well as more senior investigators new to the research field.

The Medical Technology Development project provides funds for promising candidate solutions that are selected for initial safety and efficacy testing in small scale human clinical trials regulated by the U.S. Food and Drug Administration (FDA) prior to licensing for human use. Research in this PE is designed to address the following: areas of interest to the Secretary of Defense regarding Wounded Warriors, capabilities identified through the Joint Capabilities Integration and Development System (JCIDS), and the strategy and initiatives described in the Quadrennial Defense Review (QDR). Program development and execution is peer-reviewed and fully coordinated with all of the Military Services, appropriate Defense Agencies or Activities and other federal agencies, to include the Department of Veterans Affairs, the Department of Health and Human Services, and the Department of Homeland Security. This coordination occurs through the planning and execution activities of the Joint Program Committees (JPCs), established for the Defense Health Program enhanced RDT&E funding. Research supported by this PE includes polytrauma and blast injury, rehabilitation, diagnosis and treatment of brain injury, operational health and performance, psychological health and well-being for military personnel and families, and medical informatics, and medical training systems modeling and simulation.

The Defense Health Program appropriation also received FY 2010 funding for Wounded Warrior Enhancement to stimulate innovative research at intramural and extramural research sites. This effort included funding for operational health

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and performance, polytrauma and blast, psychological health and well-being for military personnel and families, rehabilitation, and traumatic brain injury.

B. PROGRAM CHANGE SUMMARY:

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
FY12 Budget Estimate RDT&E	768.347	133.376	165.507	175.907
Change Proposal	0.000	0.000	15.535	12.828
Realignment	0.000	0.000	0.000	0.000
Reprogramming	16.571	0.000	0.000	0.000
SBIR	-2.163	0.000	0.000	0.000
FY12 Budget Submission RDT&E	782.755	133.376	181.042	188.735

PROGRAM CHANGE SUMMARY EXPLANATION:

FY 2010: Prior Approval Reprogramming, FY 10-17 PA, from DHP O&M to DHP RDT&E, PE 0603115 - Medical Technology Development for Wounded Warrior Enhancement (WWE) program (+\$10.988 million).

Prior Approval Reprogramming, FY 10-43 PA, from RDT&E, Defense-Wide appropriation to DHP RDT&E, PE 0603115 - Medical Technology Development for Congressional Special Interest item Center for Research on Minority Health Prostate Cancer Outreach Project (+\$0.800 million).

Internal Reprogramming, FY 10-30 IR, from RDT&E, Air Force appropriation to DHP RDT&E, PE 0603115 - Medical Technology Development for Congressional Special Interest item Next Generation Simulation Training for Para rescue (+\$1.583 million).

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Internal Reprogramming, FY 10-21 IR, from DHP O&M appropriation to DHP RDT&E, PE 0603115 - Medical Technology Development for Congressional Special Interest item for Web-based teaching programs for Military Social Work (+\$3.200 million).

SBIR Transfer from DHP RDT&E, PE 0603115 - Medical Technology Development (-\$2.163 million) to DHP RDT&E, PE 0605502 - Small Business Innovation Research (SBIR) program (+\$2.163 million).

FY 2011: No Change.

FY 2012: Change Proposal to DHP RDT&E, PE 0603115 - Medical Technology Development for Hard Body Armor Testing program (+\$0.850 million).

Change Proposal to DHP RDT&E, PE 0603115 - Medical Technology Development for Underbody Blast Testing program (+\$15,200 million).

Change Proposal from DHP RDT&E, PE 0603115 - Medical Technology Development for Medical Development Laboratory Support (-\$0.515 million).

FY 2013: Change Proposal to DHP RDT&E, PE 0603115 - Medical Technology Development for Hard Body Armor Testing program (+\$0.600 million).

Change Proposal to DHP RDT&E, PE 0603115 - Medical Technology Development for Underbody Blast Testing program (+\$13,000 million).

Change Proposal from DHP RDT&E, PE 0603115 - Medical Technology Development for Medical Development Laboratory Support (-\$0.772 million).

Defense Health Program
 Fiscal Year (FY) 2012 Budget Estimates
 Exhibit R-2, DHP RDT&E Budget Item Justification

Appropriation/Budget Activity
 Defense Health Program/BA: 2

DATE: February 2011
 R1 Item Nomenclature: 6
 Medical Technology Development
 0603115HP

C. OTHER PROGRAM FUNDING SUMMARY:

	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>
	<u>Estimate</u>						
DHP Operation & Maintenance	8.700	14.400	16.824	17.332	17.858	18.398	18.954
BA-1, PE 0806721	4.000	8.000	8.244	8.495	8.755	9.022	9.297
BA-1, PE 0807714	4.700	6.400	8.580	8.837	9.103	9.376	9.657

D. ACQUISITION STRATEGY: Not Required.

E. PERFORMANCE METRICS:

Program cost, schedule and performance are measured using a systematic approach. The results of these measurements are presented to management on a regular basis to determine program effectiveness and provide new direction as needed to ensure the efficient use of resources. Program performances are highlighted within each project plans and accomplishments. Performance metric for transition of research will be attainment of a maturity level typical of TRL5, or the equivalent for TRL6.