

Defense Health Program
 Fiscal Year (FY) 2011 Budget Estimates
 Exhibit R-2, DHP RDT&E Budget Item Justification

Appropriation/Budget Activity
 Defense Health Program/BA: 2

DATE: February 2010
 R1 Item Nomenclature: 3
 Applied Biomedical Technology
 0602115HP

COST: (Dollars in Millions)

	2009 Actual	2010 Estimate	2011 Estimate	2012 Estimate	2013 Estimate	2014 Estimate	2015 Estimate
Total PE 0602115	3.150	90.525	28.658	33.805	35.725	29.797	47.023
AF-Epidemic Outbreak Surveillance (Air Force)	0.975	0.000	0.000	0.000	0.000	0.000	0.000
GDF-Applied Biomedical Technology (GDF-ABT)	0.000	87.297	25.264	30.326	32.159	26.160	43.313
Medical Modernization Programs (Air Force)	1.395	0.000	0.000	0.000	0.000	0.000	0.000
USAF Advanced Diagnostics & Therapeutics (Air Force)	0.000	3.228	3.394	3.479	3.566	3.637	3.710
USAF Operational Medicine Research & Development (Air Force)	0.780	0.000	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Air Force Medical Service Biomedical Research & Development program supports the Air Force Surgeon General's (AFSG's) vision for medical modernization and the capabilities and objectives outlined in the AFMS Concept document for medical modernization in the areas of 1) Ensure a Fit and Healthy Force; 2) Prevent Casualties; 3) Restore Health; 4) Enhance Human Performance. Specific examples of validated Surgeon General's Requirements for Operational Capabilities Council (SGROCC) initiatives that will be addressed by funding in this PE include: Advanced Diagnostics & Therapeutics applied

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research (Micro array Automation/Gene Expression), Directed Energy Injury/Human Effects Detection, Identification, Quantification and Mitigation, Human Systems Integration, Critical Care Air Transport Modernization, Genetic/Genomic/Proteinomic (Personalized Medicine)/related research efforts to improve care for the Wounded Warrior.

Epidemic Outbreak Surveillance (EOS) & Advanced Diagnostic & Therapeutics is a comprehensive effort to accelerate our ability to make informed decisions involving infectious diseases and to provide advance therapies for same. As the Advanced Concept Technology Demonstration project funded in FY05 transitions in FY09, we will begin to build upon the concepts and capabilities demonstrated by focusing efforts on bridge technologies during FY08 and FY09 leading to anticipated technological advancements throughout industry in the arena of Personalized Medicine (G2P).

The Clinical Research Program promotes/conducts biomedical research and medical education in support of aerospace expeditionary operations and military families and ensures protection of subjects when participating in research projects. Funding for applied research focused toward specific physical and mental effectiveness of AF personnel as well as public health and epidemiological technologies. This program supports transition of basic research into applied biomedical solutions; research activities are conducted at 9 investigative sites, 3 with active animal laboratories.

The Medical Modernization Program supports the RDT&E efforts needed to address ongoing and planned Air Force Medical Service modernization initiatives, which are aimed to meet new or enhanced capabilities including Modernization projects aimed to address critical continuity of care issues for our Wounded Warriors, improve recovery and rates of return to duty/productive members of society. The program funds initiatives across the spectrum of biomedical development to include Directed Energy Human Effects Countermeasures (as defined by the DETF), Human Systems Integration projects, Critical Care Air Transport Modernization, & Genetic/Genomic/Proteinomic (Personalized Medicine)/related research efforts.

GDF program funds are for applied research to refine concepts and ideas into potential solutions to military health and performance problems with a view towards evaluating technical feasibility. Included are studies and investigations leading to candidate solutions that may involve use of animal models for testing in preparation for initial human testing. Research in this PE is designed to address areas of interest to the Secretary of Defense and to close medical capability gaps associated with the Joint Force Health Protection Concept of Operations (JFHP CONOPS) and derivative Joint Capability Documents (JCD). Program development and execution is peer-reviewed and fully coordinated with all Services and other agencies through the Expanded-

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Joint Technology Coordinating Groups under the Armed Services Biomedical Evaluation and Management (ASBREM) Committee to assure quality, relevance, and responsiveness to military operational needs, the needs of the Military Health System and the JFHP CONOPS and JCDs. Research supported by this PE includes trauma, polytrauma and blast injury, rehabilitation, diagnosis and treatment of brain injury, operational health and performance, and psychological health and well-being for military personnel and families.

B. PROGRAM CHANGE SUMMARY:

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
FY11 Budget Estimate RDT&E	3.150	92.846	28.658	33.805
SBIR	0.000	-2.321	0.000	0.000
FY11 Budget Submission RDT&E	3.150	90.525	28.658	33.805

PROGRAM CHANGE SUMMARY EXPLANATION:

FY09:
 No Change.

FY10:
 SBIR Transfer from DHP RDT&E Program Element 0602115-Applied Biomedical Technology to DHP RDT&E Program Element 0605502-Small Business Innovation Research (SBIR) (-\$2.321 million).

FY11:
 No Change.

FY12:
 No Change.

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C. OTHER PROGRAM FUNDING SUMMARY:

	<u>FY 2009</u>	<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>Estimate</u>						
DHP Operation & Maintenance	0.725	0.747	0.769	0.792	0.816	0.840	0.866
BA-1, PE 0807714	0.725	0.747	0.769	0.792	0.816	0.840	0.866

D. ACQUISITION STRATEGY: Not Required

E. PERFORMANCE METRICS:

The benchmark performance metric for transition of research conducted with Applied Research funding will be the attainment of a maturity level that is at least TRL 4, and typically TRL 5, or the equivalent for knowledge products. Products nearing attainment of TRL 5 will be considered for transition.