

Defense Health Program
 Fiscal Year (FY) 2010 Budget Estimates
 Exhibit R-2, DHP RDT&E Budget Item Justification

Appropriation/Budget Activity
 Defense Health Program/BA: 2

DATE: May 2009
 R1 Item Nomenclature: 3
 Applied Biomedical Technology
 0602115HP

COST: (Dollars in Millions)

	2008 Actual	2009 Estimate	2010 Estimate
Total PE 0602115	3.073	3.150	92.846
AF-Epidemic Outbreak Surveillance (Air Force)	0.975	0.975	0.000
Biomedical Technology for GDF Enhancement (TMA)	0.000	0.000	89.535
Medical Modernization Programs (Air Force)	1.318	1.395	0.000
USAF Advanced Diagnostics & Therapeutics (Air Force)	0.000	0.000	3.311
USAF Operational Medicine Research & Development (Air Force)	0.780	0.780	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 Armed Forces Medical Service (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

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Diagnostics & Therapeutics applied 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.

Projects in this PE also 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 are complementary to research conducted by the Army, Navy, Air Force and DARPA in analogous PEs. Projects supported by this PE include 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.

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B. PROGRAM CHANGE SUMMARY:

	<u>2008</u>	<u>2009</u>	<u>2010</u>
FY10 Budget Estimate RDT&E	3.073	3.231	3.311
GDF Enhancement	0.000	0.000	89.535
SBIR	0.000	-0.081	0.000
FY10 Budget Submission RDT&E	3.073	3.150	92.846

PROGRAM CHANGE SUMMARY EXPLANATION:

FY08:

- No Change

FY09:

- SBIR Transfer from DHP RDT&E Program Element 0602115-Biomedical Technology to DHP RDT&E Program Element 0605502-Small Business Innovation Research (SBIR) (\$0.081 million) for proper execution

FY10:

- Program increase for Guidance for Development of the Force (GDF) Enhancement (\$89.535 million)

C. OTHER PROGRAM FUNDING SUMMARY:

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>
DHP Operation & Maintenance	1.000	1.030	1.061
BA-1, PE 0807714	1.000	1.030	1.061

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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.