DATE: February 2007 R1 Item Nomenclature: 1

In-House Laboratory Independent Research

0601101HP

COST: (Dollars in Thousands)

Appropriation/Budget Activity

Defense Health Program/BA: 2

	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total PE 0601101	2.296	2.424	2.213	2.259	2.304	2.350	2.397	2.445
Infectious Disease	0.321	0.339	0.309	2.259	2.304	2.350	2.397	2.445
Military Operational Medicine	0.986	1.041	0.950	0.000	0.000	0.000	0.000	0.000
Combat Casualty Care	0.989	1.044	0.954	0.000	0.000	0.000	0.000	0.000

Reflects FY 2007 President's Budget Request. Current Continuing Resolution funding for RDT&E is \$379,603 thousand.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program element supports basic medical research at the Uniformed Services University of the Health Sciences (USUHS). It facilitates the recruitment and retention of faculty; supports unique research training for military medical students and resident fellows; and allows the University's faculty researchers to collect pilot data in order to secure research funds from extramural sources (estimated \$25-\$30 million annually). Approximately sixty intramural research projects are active each year, including 15 new starts. Projects are funded on a peer-reviewed, competitive basis. Results from these studies contribute to the fund of knowledge intended to enable technical approaches and investment strategies within Defense Science and Technology (S&T) programs.

The ILIR program at USUHS is designed to answer fundamental questions of importance to the military medical mission of the Department of Defense in the areas of Combat Casualty Care (CCC), Infectious Diseases (ID), and Military Operational Medicine (MOM). The portfolio of research projects will vary annually because this research is investigator-initiated. Examples of typical research efforts are:

Combat Casualty Care: Ischemia and reperfusion injury, traumatic brain and peripheral nerve injury, neural

R1 Line Item 1

(Page 1 of 2)

DATE: February 2007
Appropriation/Budget Activity
R1 Item Nomenclature: 1

Defense Health Program/BA: 2 In-House Laboratory Independent Research

0601101HP

control of pain, endotoxic shock, cryotherapy, malignant hyperthermia, inflammation, and wound healing. Infectious Diseases: Immunology and molecular biology of bacterial, viral and parasitic disease threats to military operations. These threats include scrub typhus; E. coli and their shiga toxins; HIV, HTLV-1, strongyloides, gonorrhea, streptococcus, staphylococcus, hepatitis A, helicobacter pylori, typhoid, malaria, and bartonellosis.

Military Operational Medicine: Sustainment of individual performance; mapping and managing deployment and operational stressors; cognitive enhancement; and military & medical training readiness.

### B. PROGRAM CHANGE SUMMARY:

	FY 2006	FY 2007	FY 2008
FY08 Budget Estimate RDT&E	2.296	2.424	2.213
FY08 Budget Submission RDT&E	2.296	2.424	2.213

PROGRAM CHANGE SUMMARY EXPLANATION: Not required

C. OTHER PROGRAM FUNDING SUMMARY: Not required

D. ACQUISITION STRATEGY: Not required

E. PERFORMANCE METRICS: Not required

Appropriation/Budget Activity Defense Health Program/BA: 2

DATE: February 2007 R1 Item Nomenclature: 2 Medical Technology (AFRRI)

0602787HP

COST: (Dollars in Thousands)

	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total PE 0602787	3.056	3.236	3.306	3.381	3.417	3.553	3.694	3.841
Biodosimetry	0.623	0.660	0.675	0.000	0.000	0.000	0.000	0.000
Internal Contamination	0.323	0.343	0.350	0.000	0.000	0.000	0.000	0.000
Radiation Countermeasures	2.110	2.233	2.281	3.381	3.417	3.553	3.694	3.841

Reflects FY 2007 President's Budget Request. Current Continuing Resolution funding for RDT&E is \$379,603 thousand.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program supports developmental research to investigate new approaches that will lead to advancements in biomedical strategies for preventing, treating, assessing and predicting the health effects of human exposure to ionizing radiation. Program objectives focus on mitigating the health consequences from exposures to ionizing radiation that represent the highest probable threat to U.S. forces under current tactical, humanitarian and counter-terrorism mission environments. New protective and therapeutic strategies will broaden the military commander's options for operating within nuclear or radiological environments by minimizing both short-and long-term risks of adverse health consequences. Advancements in field-based biological dose assessment systems to measure radiation exposures will enhance triage, treatment decisions and risk assessment. Accurate models to predict casualties will promote effective command decisions and force structure planning to ensure mission success.

Appropriation/Budget Activity Defense Health Program/BA: 2

DATE: February 2007 R1 Item Nomenclature: 2 Medical Technology (AFRRI)

0602787HP

### B. PROGRAM CHANGE SUMMARY:

	FY 2006	FY 2007	FY 2008
FY08 Budget Estimate RDT&E	3.056	3.236	3.306
FY08 Budget Submission RDT&E	3.056	3.236	3.306

PROGRAM CHANGE SUMMARY EXPLANATION: Not required

C. OTHER PROGRAM FUNDING SUMMARY: Not required

D. ACQUISITION STRATEGY: Not required

### E. PERFORMANCE METRICS:

Accomplishments: Identified 6 drugs or therapeutic approaches that are promising for treatment of radiation injury.

By FY 2008 identify at least 2 new biodosimetric approaches to determine individual radiation exposure.

By FY 2010 develop decision criteria for antibiotic use after radiation injury.

DATE: February 2007 R1 Item Nomenclature: 3

Medical Advanced Technology (AFRRI)

0603002HP

Defense Health Program/BA: 2

Appropriation/Budget Activity

COST: (Dollars in Thousands)

	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total PE 0603002	1.914	0.799	0.817	0.836	0.737	0.752	0.767	0.783
Biodosimetry	0.449	0.470	0.488	0.836	0.737	0.752	0.767	0.783
Radiation Countermeasures	0.307	0.329	0.329	0.000	0.000	0.000	0.000	0.000
Inositol Signaling Molecule-Based Radioprotectant Drug Development	1.158	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Reflects FY 2007 President's Budget Request. Current Continuing Resolution funding for RDT&E is \$379,603 thousand.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The first two programs support applied research for advanced development of biomedical strategies to prevent, treat and assess health consequences from exposure to ionizing radiation. It capitalizes on findings under PE 0602787D, Medical Technology, and from industry and academia to advance novel medical countermeasures into and through pre-clinical studies toward newly licensed products. Program objectives focus on mitigating the health consequences from exposures to ionizing radiation that represent the highest probable threat to US forces under current tactical, humanitarian and counter terrorism mission environments. Findings from basic and developmental research are integrated into highly focused advanced technology development studies to produce the following: (1) protective and therapeutic strategies; (2) novel biological markers and delivery platforms for rapid, field-based individual dose assessment; and (3) experimental data needed to build accurate models for predicting casualties from complex injuries involving radiation and other battlefield insults. The Armed Forces Radiobiology Research Institute (AFRRI), because of its multidisciplinary staff and exceptional laboratory and radiation facilities, is uniquely positioned to execute the program as prescribed by its mission.

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DATE: February 2007 R1 Item Nomenclature: 3 Appropriation/Budget Activity Defense Health Program/BA: 2

Medical Advanced Technology (AFRRI)

0603002HP

The third program is a Congressionally mandated requirement for medical research into biomedical strategies for preventing, treating, assessing and predicting the health effects of human exposure to ionizing radiation. There is no out year funding for this program.

### B. PROGRAM CHANGE SUMMARY:

	FY 2006	FY 2007	FY 2008
FY08 Budget Estimate RDT&E	1.607	0.470	0.474
FY08 Budget Submission RDT&E	1.607	0.470	0.474

PROGRAM CHANGE SUMMARY EXPLANATION: Not required

- C. OTHER PROGRAM FUNDING SUMMARY: Not required
- D. ACQUISITION STRATEGY: Not required

### E. PERFORMANCE METRICS:

Accomplishments: 1) obtained "investigational new drug" status for a therapeutic agent to mitigate radiation injury and 2)provide software tools for biodosimetric assessment.

By FY 2010 transition 4 new drugs for FDA approval for treatment of radiation injury.

By FY 2010 provide forward-fieldable biodosimetric tools.

R1 Line Item 3 (Page 2 of 2)

Appropriation/Budget Activity
Defense Health Program/BA: 2

DATE: February 2007 R1 Item Nomenclature: 4 Biomedical Technology

0602115HP

COST: (Dollars in Thousands)

	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total PE 0602115	2.896	3.000	3.152	3.231	3.311	3.394	3.479	3.566
Clinical Research	0.000	0.000	0.800	0.800	0.800	0.800	0.800	0.800
AF-Epidemic Outbreak Surveillance	2.896	3.000	1.152	1.231	1.311	1.394	1.479	1.566
Medical Modernization Programs	0.000	0.000	1.200	1.200	1.200	1.200	1.200	1.200

Reflects FY 2007 President's Budget Request. Current Continuing Resolution funding for RDT&E is \$379,603 thousand.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Air Force Medical Service realigned Defense Health Program (DHP), Operation and Maintenance funding to the DHP, Research, Development, Test and evaluation (RDT&E) appropriation in Fiscal Year (FY) 2006 and out. The RDT&E 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) new initiatives include: Supervision, Transcutaneous Blood Analyzer, Development of Field-Deployable Cardiopulmonary Support Device, Micro array Automation/Gene Expression, and Genetic, Genomic, and Proteinomics to Improve Clinical Care.

Epidemic Outbreak Surveillance (EOS) is an integrated system to accelerate informed decisions involving infectious diseases. FY 02 - FY 04 research funding (>\$10M) was received from the Defense Threat Reduction Agency and Line Air Force for applied research and development. In FY 05 DoD provided \$5M under the Advanced Concepts Technology Demonstration program. DHP RDT&E funding is used to effectively continue the necessary medical research and application to design and improve genomic biotechnology aimed to transition into the

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Appropriation/Budget Activity Defense Health Program/BA: 2

DATE: February 2007
R1 Item Nomenclature: 4
Biomedical Technology

0602115HP

AFMS. Program will work to evaluate the feasibility of the ACDT concept toward application for AFMS biotechnology and use for operational medicine.

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. Clinical Research Program supports the transition of basic research into applied biomedical solutions. The AF conducts Clinical Investigation activities at 9 research sites, 3 with active animal laboratories, which align current research program with HAF Requirements and MAJCOM programmed clinical research requirements.

### B. PROGRAM CHANGE SUMMARY:

	FY 2006	FY 2007	FY 2008
FY08 Budget Estimate RDT&E	2.896	3.000	3.152
FY08 Budget Submission RDT&E	2.896	3.000	3.152

PROGRAM CHANGE SUMMARY EXPLANATION: Not required

### C. OTHER PROGRAM FUNDING SUMMARY:

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
	<u>Actuals</u>	<u>Estimate</u>						
DHP Operation & Mainte	nance							
BA-1, PE 0807714	1.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500

### D. ACQUISITION STRATEGY: Not required

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Appropriation/Budget Activity Defense Health Program/BA: 2

DATE: February 2007 R1 Item Nomenclature: 4 Biomedical Technology

0602115HP

E. PERFORMANCE METRICS: Not required

Appropriation/Budget Activity Defense Health Program/BA: 2

DATE: February 2007 R1 Item Nomenclature: 5 Medical Development

0603115HP

COST: (Dollars in Thousands)

	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total PE 0603115	398.242	34.448	37.333	38.077	38.981	39.898	40.836	41.796
Deployed Warfighter Protection (Army)	4.826	5.000	5.000	5.000	5.100	5.202	5.306	5.412
Medical Development (Lab Support) (Navy)	15.540	19.448	19.827	20.258	20.742	21.228	21.725	22.234
Epidemic Outbreak Surveillance (Air Force)	5.790	6.000	7.006	5.619	5.728	5.854	5.977	6.107
Medical Modernization Programs (Air Force)	1.931	2.000	1.400	3.000	3.100	3.200	3.300	3.400
Advanced Diagnostic Laboratory (ADL), San Antonio, TX (Air Force)	1.931	2.000	2.100	2.150	2.210	2.260	2.320	2.380
Institute of Aerospace Medicine (IAM) (Air Force)	0.000	0.000	2.000	2.050	2.101	2.154	2.208	2.263
Amyotrophic Lateral Sclerosis (ALS) (Army)	2.510	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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Appropriation/Budget Activity Defense Health Program/BA: 2

DATE: February 2007 R1 Item Nomenclature: 5 Medical Development

0603115HP

	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Armed Forces Medical and Food Research (Army)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bethesda Hospital's Emergency Preparedness Partnership (Navy)	1.115	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bio-Molecular Material Composites Research Program (Army)	0.965	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Blast Injury Prevention, Mitigation & Treatment Initiative (Army)	5.405	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Chronic Epilepsy in Severe Head Injuries (Army)	0.965	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Chronic Mylogenous Leukemia Research Program (CMLRP) (Army)	4.151	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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Appropriation/Budget Activity Defense Health Program/BA: 2

DATE: February 2007 R1 Item Nomenclature: 5 Medical Development

0603115HP

	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Computer Assisted Medical Diagnostics (Army)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Copper Antimicrobial Research Program (Army)	1.931	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Defense Graduate Psychology Education Program (USUHS)	3.315	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Downed Pilot Forward Osmosis Water Filtration System (Navy)	2.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Early Diagnosis, Treatment & Care of Cancer Patients	2.413	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ex-Rad Radiation Protection Program (USUHS)	0.975	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Global HIV/AIDS Prevention (Navy)	5.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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Appropriation/Budget Activity Defense Health Program/BA: 2

DATE: February 2007 R1 Item Nomenclature: 5 Medical Development

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	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Hawaii Federal Healthcare Network (Army)	19.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Manganese Health Research (Army)	1.351	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Medical Vanguard Diabetes Management Project (Army)	0.869	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Medical Surveillance Technology - Clinical Looking Glass (Army)	2.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Metabolic Defense (Army)	2.124	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Microencapsulation & Vaccine Delivery Research (Army)	2.510	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Military Burn Victim Treatment and Care (Army)	0.965	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Muscle Research Consortium (Army)	2.317	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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DATE: February 2007 R1 Item Nomenclature: 5 Medical Development

0603115HP

	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
New National Diabetes Model Program (Air Force)	16.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Noninvasive Hydration & Homodynamics Monitoring (Air Force)	0.965	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Noninvasive Nanodiagnostics of Cancer (Army)	1.931	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ovarian Cancer Research (Army)	9.652	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Peer Reviewed Breast Cancer Research (Army)	123.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Real-Time Healthcare Management	1.345	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Peer Reviewed Prostate Cancer Research (Army)	77.220	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Peer Reviewed Medical Research Program (Army)	48.262	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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Appropriation/Budget Activity Defense Health Program/BA: 2

DATE: February 2007 R1 Item Nomenclature: 5 Medical Development

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	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
USAF Environmental/Occupat ional Factors in Women's Health	1.158	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Periscopic Surgery For the Spine (Army)	1.448	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pharmacological Countermeasusres to Ionizing Radiation (USUHS)	1.219	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Platelet Transfusion Therapy (Army)	0.965	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Prevention Medicine Research for Prostate Cancer (USUHS	1.641	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Regenerative Medicine Research (Army)	0.965	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Special Operations Injury Prevention Program (Army)	1.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Stress Disorders Research Initiative at Fort Hood (Army)	2.896	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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DATE: February 2007
R1 Item Nomenclature: 5
Medical Development

0603115HP

	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Telerobotic and Minimally Invasive Surgery at WRAMC (Army)	2.124	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Tuberous Sclerosis Complex (TSC) Research (Army)	4.151	0.000	0.000	0.000	0.000	0.000	0.000	0.000
US Military Cancer Institute (USUHS)	2.896	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Virtual Medical Trainer (Air Force)	1.634	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Water-Related Viral Disease Countermeasures (Air Force)	1.737	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Supervision Using Electro-Active Optics	3.378	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Reflects FY 2007 President's Budget Request. Current Continuing Resolution funding for RDT&E is \$379,603 thousand.

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:** For the Air Force Medical Service elements, the program supports the Research, Development, Test and Evaluation efforts needed to address ongoing and planned Air Force Medical Service modernization initiatives, which are aimed to meet new or enhanced capabilities to include: Restore Health: Modernization projects aimed to improve recovery of individuals from illness and/or

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Appropriation/Budget Activity
Defense Health Program/BA: 2

DATE: February 2007 R1 Item Nomenclature: 5 Medical Development

0603115HP

injury. Advanced medical technologies, including clinical and non-clinical applications, developed to meet requirements and provide capabilities to respond/treat/manage/return individuals to duty status. Enhance Human Performance: Enhances human health and performance to maximize effectiveness and ability to operate. Develops and demonstrates advanced biometric capabilities. Improves human ability (i.e. visual, auditory, cognitive) to operate under adverse environments to include CBRNE, directed energy, and high operational tempo. Fit and Healthy Force: Develops/assesses technologies and systems designed to maintain healthy force. Provide advanced biotechnology platforms and bioinformatics to identify susceptibility to disease and injury. Develop/improve the ability to monitor disease, apply preventive, prophylactic and therapeutic measures. Prevent Casualties: Demonstrate and assess new efforts to enhance responsiveness to emerging threats under various environmental conditions. Provide proven effective capabilities to deploy advanced technologies for environmental surveillance, delivery of patient health care, and hazard assessment and response. Conduct necessary advanced technology demonstration of custom laser refractive surgery as applicable to aerospace operations. Epidemic Outbreak Surveillance (EOS) program is an integrated system for informed decision management involving infectious diseases, diagnostics and bioinformatics. EOS provides a "dual use" functionality/capability for the AF and ultimately DoD because the technologies and information that result are seamlessly built into the medical care system. What will be introduced and operationalized with EOS is (1) real-time (2 hour) diagnostic capability for on target diagnosis and treatment; and (2) rapid dissemination of decision quality information to all layers of medical care and command. The other value is that EOS brings a prototype biosurveillance (some say biodefense) capability to be looking continually for the zebra (unusual occurance of disease) in the sea of day-to-day illness that presents just as most of the usual illnesses present (i.e. hundreds of respiratory illness present like the "flu" and they may in fact be flu or anthrax, etc.). Epidemic Outbreak Surveillance (EOS) is a systems of systems program to establish an operational prototype biodefense system and validate the performance of the system within real world outbreaks of infectious respiratory disease. Six technology domains must be integrated to assemble and operate the EOS system. Three of these domains represent deliverable capabilities from the EOS system. Advanced diagnostic platforms detect small numbers of pathogen genomes, simultaneously differentiate among diverse viral and bacterial pathogens, and operate in near real time.

The Army Medical Command programs for the Deployed Warfighter Protection project that provides for the development of protection of ground forces from disease-carrying insects.

The Navy Bureau of Medicine and Surgery (BUMED), manages Medical Development (Laboratory Support) funds for operating and miscellaneous support costs at RDT&E, DHP laboratories and other installations, facility and

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DATE: February 2007 R1 Item Nomenclature: 5 Medical Development

0603115HP

civilian personnel costs not directly chargeable to RDT&E, DHP projects. 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. Excludes military manpower and related costs, non-RDT&E, N base operating costs, and military construction costs which are included in other appropriate programs. There is no outyear funding for these programs.

For the Army Medical Command, Navy BUMED, Air Force Medical Service and the Uniformed Services University of the Health Sciences (USUHS), the goals of the FY 06 Congressionally directed research identified above are to stimulate innovative research through a competitive, peer-reviewed research program. The majority of our effort is for the larger, ongoing programs, such as Breast, Prostate and Ovarian Cancer research, emphasis has been 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; and (3) recruiting a sufficient number of new, independent investigators. There is no outyear funding for these programs.

### B. PROGRAM CHANGE SUMMARY:

	FY 2006	FY 2007	FY 2008
FY08 Budget Estimate RDT&E	400.804	29.448	32.333
Reprogram	-4.492	0.000	0.000
Transfer	1.930	0.000	0.000
FY08 Budget Submission RDT&E	398.242	29.448	32.333

### PROGRAM CHANGE SUMMARY EXPLANATION:

Congressional Add for Armed Forces Medical and Food Research was reprogrammed from DHP, RDT&E (-\$1.386M) to RDT&E, Defense-Wide (+\$1.386M) for proper execution.

Congressional Add for Hawaii Federal Health Care Network was reprogrammed from DHP, RDT&E (-\$0.948M) to DHP, O&M (+\$0.948M) for proper execution.

Congressional Add for Bethesda Hospital's Emergency Preparedness Partnership was reprogrammed from DHP, RDT&E (-\$2.158M) to DHP, O&M (+\$1.060M) and DHP, Procurement (+\$1.098M) for proper execution.

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Defense Health Program/BA: 2

DATE: February 2007 R1 Item Nomenclature: 5 Medical Development

0603115HP

Congressional Add for Supervision Using Electro-Active Optics was transferred from DHP, RDT&E PEC 0605013HP-IT Development (\$-3.378M) to DHP, RDT&E PEC 0603115HP-Medical Development (\$+3.378M) to match 08PB controls.

Congressional Add for Computer Assisted Medical Diagnostics (CAMD) was transferred from DHP, RDT&E PEC 0603115HP-Medical Development (\$-1.448M) to DHP, RDT&E PEC 0605013HP-IT Development (\$+1.448M) to match 08PB controls.

### C. OTHER PROGRAM FUNDING SUMMARY:

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
	<u>Actuals</u>	<u>Estimate</u>						
DHP Operation & Mainte	nance							
BA-1, PE 0807714	3.000	4.000	4.000	4.000	4.000	4.000	5.000	5.500

D. ACQUISITION STRATEGY: Not required

E. PERFORMANCE METRICS: Not required

DATE: February 2007 R1 Item Nomenclature: 6

SBIR Program 0605502HP

Appropriation/Budget Activity Defense Health Program/BA: 2

COST: (Dollars in Thousands)

	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total PE 0605502	14.234	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Small Business Innovative Research (SBIR) for Medical (Army)	10.567	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Small Business Innovative Research (SBIR) for IM/IT (Army)	3.667	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Reflects FY 2007 President's Budget Request. Current Continuing Resolution funding for RDT&E is \$379,603 thousand.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Small Business Innovation Research program was established in the Defense Health Program, Research, Development, Test and Evaluation appropriation during FY 2001, and will be funded in the year of execution. The program funds small business proposals chosen to enhance military medical research and information technology research. Funds have been transferred from all extramural DHP RDT&E programs at the rate of two and one-half percent.

### B. PROGRAM CHANGE SUMMARY:

	FY 2006	FY 2007	FY 2008
FY08 Budget Estimate RDT&E	14.185	0.000	0.000
SBIR	0.049	0.000	0.000
FY08 Budget Submission RDT&E	14.234	0.000	0.000

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DATE: February 2007 R1 Item Nomenclature: 6 SBIR Program 0605502HP

### PROGRAM CHANGE SUMMARY EXPLANATION:

Small Business Innovation Research (SBIR) was transferred from DHP, RDT&E PEC 0605013HP-IT Development for DEBS (-\$0.012M) and for ICIS (-\$0.037M) to DHP, RDT&E PEC 0605502HP-SBIR (+\$0.049M) for proper execution.

C. OTHER PROGRAM FUNDING SUMMARY: Not required

D. ACQUISITION STRATEGY: Not required

E. PERFORMANCE METRICS: Not required

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COST: (Dollars in Thousands)

	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total PE 0605013	143.648	86.696	87.661	129.188	85.180	47.178	46.709	43.923
Defense Blood Standard System (DBSS) TMA	1.432	1.462	5.668	3.050	2.725	2.205	2.924	2.986
Defense Medical Human Resources System (internet) DMHRSI	3.360	5.826	0.000	18.753	10.237	0.000	0.000	0.000
Defense Medical Logistics Standard System (DMLSS)	1.063	0.786	6.478	18.448	16.066	11.618	5.424	5.543
Defense Occupational and Environmental Health Readiness System - Industrial Hygiene (DOEHRS-IH)	0.000	0.000	0.220	11.433	5.760	7.088	12.930	6.412
Enterprise Wide Scheduling and Registration (EWS-R)	13.534	6.933	4.387	4.387	0.000	0.000	0.000	0.000
Executive Information/Decision Support (EI/DS)	11.057	9.077	8.868	2.863	2.318	1.771	0.000	0.000

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	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Expense Assignment System IV (EAS IV)	0.000	0.000	1.596	9.788	12.464	0.000	0.000	0.000
Joint Electronic Health Record Interoperability (JEHRI)	2.790	5.074	8.784	7.522	5.760	0.000	0.000	0.000
MHS CIO Management Operations	3.581	0.992	0.000	0.000	0.000	0.000	0.000	0.000
Military Computer- Based Patient Record (MCPR)	29.788	21.993	7.596	4.888	4.415	2.873	2.737	2.796
Patient Accounting System (PAS)	6.397	3.042	0.000	0.000	0.000	0.000	0.000	0.000
Patient Safety Reporting (PSR)	2.481	0.097	0.000	0.000	0.000	0.000	0.000	0.000
Theather Medical Information Program (TMIP)	25.154	8.813	27.541	31.465	12.877	9.773	10.612	13.918
Tricare on Line (TOL)	3.499	3.721	0.000	0.000	0.000	0.000	0.000	0.000

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	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Veterinary Service Information Management System (VSIMS)	2.978	1.099	0.000	0.000	0.000	0.000	0.000	0.000
Other Related Technical Activities	2.142	2.259	1.935	2.966	1.860	0.906	0.885	0.813
TRANSCOM Regulation and Command and Control Evacuation System (TRAC2ES)	0.000	5.661	4.356	3.169	0.000	0.000	0.000	0.000
IM/IT Development for TRAC2ES	5.423	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<pre>IM/IT Development      (Army)</pre>	0.132	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Air Force Integrated Framework Toolset	0.483	0.500	1.000	1.000	1.000	1.000	1.000	1.000
Assessment Demonstration Center (Air Force)	0.483	0.500	1.304	1.511	1.600	1.800	2.000	2.100
Composite Occupational Health & Risk Tracking (COHORT)	0.483	1.000	1.200	1.300	1.323	1.438	1.408	1.482

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	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Enterprise Environmental Safety Occupational Health Mgmt Info System (EESOH-MIS)	1.929	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Enterprise Environmental Safety Occupational Health Mgmt Info System (EESOH-MIS/COHORT)	0.483	1.300	0.000	0.000	0.000	0.000	0.000	0.000
IM/IT Test Bed	0.772	1.200	1.500	1.900	2.200	2.300	2.300	2.300
Integrated Clinical Database (ICDB-AF)	1.158	1.500	1.300	0.750	0.500	0.250	0.250	0.250
MHS CIO Management Operation (Navy)	3.653	3.861	3.928	3.995	4.075	4.156	4.239	4.323
AFSG Server Consolidation Initiative (AF)	2.413	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Assessment & Demo Center for USAF SG (AF)	1.634	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Automated Clinical Practice Guidelines (Army)	1.351	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Healthcare Infomatics Testbed (Army)	1.448	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Directed Mission Upgrades of the Defense Medical Logistics Standard Support System (DMLSS) (TMA)	4.151	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DoD Trauma Registry and Research Database (Army)	3.282	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Protected Health Information Initiative (Army)	1.737	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Supervision Using Electro-Active Optics	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Computer Assisted Medical Diagnostics (Army)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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	FY 2006 Actuals	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Computer Assisted Medical Diagnostics (TMA)	1.448	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Deployment of Environmental and Biological Survey (DEBS)	0.481	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Integrated Clinical Information System (ICIS) Collaboration (Army)	1.448	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Reflects FY 2007 President's Budget Request. Current Continuing Resolution funding for RDT&E is \$379,603 thousand.

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: For the Army Medical Command its focus is to identify, explore, and demonstrate key technologies to overcome medical and military unique technology barriers. FY 2006 Congressional earmarked funding provided for the following projects to include Protected Health Information Initiative, DoD Trauma Registry and Research Database, Integrated Clinical Information System Collaboration, IM/IT Development, Automated Clinical Practice Guidelines, and Healthcare Infomatics Testbed. For the Navy Bureau of Medicine and Surgery (BUMED), the Medical Capabilities Assessment and Status (M-CAST) will manage compliance and implementation of the national strategy outlined in SECNAVINST 3400.11 to develop a set of capabilities to address "all hazards" emergency management programs. M-CAST provides the required matrix and program management to allow integration monitoring at the local and headquarters level.

Dental Common Access System (DENCAS) is an e-business solution designed to facilitate orderly collection, secure storage and transmission and smart card-authenticated access to dental records.

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Navy Medicine Online (NMO) portal was developed to support the DON single integrated enterprise portal structure for organizing, managing and accessing information. NMO is Navy Medicine's mission essential online portal presence and serves a vital role in the overall process of collecting, analyzing and brokering information to and from critical and authoritative data sources. NMO aggregates information into one common operational view for BUMED, Navy and Marine Corps Operational Units and Claimancy 18 activities.

The Air Force Medical Service IM/IT modernization program includes the following initiatives: creation of the Environmental, Safety and Occupational Health management information system, and continued major development efforts to construct the Integrated Clinical Database - Air Force, in addition to building and transitioning web applications to the Air Force Portal as solutions to the existing validated requirements generating more than \$30M in other software development funding requirements over the program 08-13 life-cycle. The Integrated Clinical Database offers the following capabilities: Enterprise Application Integration (EAI) lays the foundation to get various "stovepipe" systems to share information and processing power. It does so by providing the ability to integrate not only data but also methods and objects. This adds "intelligence" to the ICDB translating to agile functionality and rapid deployment that benefits the enterprise as a whole while leveraging low cost grass root capabilities designed and developed by the users. EAI for the ICDB translates to more robust capabilities, more data where it is needed and decision support in a timely manner allowing the ICDB to provide solutions to validated Air Force Medical requirements such as a more robust immunization and personnel readiness tracking application. Data Analysis Capability: The ICDB and COHORT provides an operational data store that allows for automated capabilities not found in existing source databases. This is achieved through ease of integration allowing development efforts to focus on the user's needs vs. the technical requirements to extract the data. The capabilities are largely clinical and operational in nature but open the door to population and business management. Through the use of data analysis, the ICDB as a clinical technology development platform and test bed can provide the basis for additional capabilities that will give tools to non-clinicians to enhance their abilities to increase the health of patient populations and business operations. The adoption of several key technologies expands the infrastructure to support development of clinical and business tools for all types of healthcare workers. Microsoft's .Net framework incorporated in architecture specifically designed by the ICDB PO eases the integration of functionality onto one platform. This equates to substantially lower costs and much more rapid deployment of capabilities. Implementation of a common data standard XML provides secure and simple access to data from existing and future automated systems for requirements not yet known. Enhanced Hardware Capacity: With the ever growing demand for new capabilities in the ICDB, enhancing the current configuration provides long term capacity to

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meet these needs. As the ICDB becomes the standard platform of choice for systems development, providing the necessary hardware infrastructure is crucial to keeping the platform available for efforts as they are completed. Future applications are expected to make novel use of data elements currently not in production like images and video to support validated Air Force telehealth and telemedicine requirements. Air Force Integrated Framework Healthcare Toolset and the Assessment Demonstration Center supports the research, development, test and evaluation of AF Medical Service web-based software requirements. Efforts include conversion of existing client-server based applications to cost-effective web-based solutions as well as new software development from approved requirements. Conversion of existing applications consolidates disparate systems into enterprise-wide applications. Benefits include significant savings over client-server systems, improved access to information by all levels of leadership, and vastly improved security. In addition these efforts directly support DoD and AF guidance and policy for IT Services Consolidation.

For the Military Health System (MHS) centrally-managed Information Management/Information Technology (IM/IT) program, the DHP, RDT&E appropriation funds information technology development, test and evaluation efforts for Tri-Service programs. In addition, various Congressional Adds are received for Information Technology in the year of execution.

The MHS centrally-managed IM/IT program is linked to the overall MHS Strategic Plan and supports military medical readiness and MHS transformation. The MHS IM/IT Program ensures compliance with the Federal Enterprise Architecture, Federal Health Architecture, and the DoD Business Enterprise Architecture through the MHS Enterprise Architecture which is a mapping of all system requirements to one of the four MHS core business processes (Manage the Business, Access to Care, Population Health Management, and Provision of Health Services). The enterprise strategy, which creates a prioritized Portfolio of requirements, incorporates reengineering and business process improvements, use of innovative acquisition techniques, integration of commercial off-the-shelf products as well as modular development, where necessary; and integration and/or elimination of legacy systems.

The MHS centrally-managed IM/IT program includes the following major (Acquisition Category (ACAT) I) initiatives: 1) AHLTA (included in the Military Computer-Based Patient Record (MCPR) initiative) integrates patient data from different times, providers and sites of care and will contain a Service member's life-long medical record of all illnesses and injuries, care and inoculations received and exposure to different hazards; 2) Theater Medical Information Program (TMIP), a seamless, interoperable medical system, designed to support theater health services across all echelons of care; and 3) Defense Medical Logistics Standard System

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(DMLSS), designed to support cataloging, customer logistics, hospital facility operations, property accounting, maintenance of biomedical devices, purchasing and contracting, and inventory management. DMLSS is in sustainment with pre-planned product improvements; and 4) Executive Information/Decision Support (EI/DS), which provides support information used by managers, clinicians, and analysts to manage the business of health care within the MHS. EI/DS is in sustainment with pre-planned product improvements. The Central IM/IT Program also contains funding for ACAT III initiatives such as the following: the Defense Medical Human Resources System (internet) (DMHRSi), the Patient Accounting System (PAS), Defense Blood Standard System (DBSS), TRICARE On Line (TOL), Enterprise Wide Scheduling and Registration (EWS-R), the Defense Occupational and Environmental Health Readiness System - Industrial Hygiene (DOEHRS-IH), and Patient Safety Reporting (PSR). The Joint Electronic Health Record Interoperability (JEHRI), a joint DoD/VA sharing effort, is also included in the Central IM/IT Program for the DoD portion of this effort.

### B. PROGRAM CHANGE SUMMARY:

	FY 2006	FY 2007	FY 2008
FY08 Budget Estimate RDT&E	141.695	88.457	87.661
Reprogram	1.978	0.000	0.000
SBIR	-0.049	0.000	0.000
Transfer	-2.120	0.000	0.000
FY08 Budget Submission RDT&E	141.504	88.457	87.661

### PROGRAM CHANGE SUMMARY EXPLANATION:

Congressional Add for Deployment of Environmental and Biological Surveillance (DEBS) was reprogrammed from RDT&E, Air Force (-\$0.493M) to DHP, RDT&E PEC 0605013HP-IT Development (+\$0.493M) for proper execution.

Congressional Add for Integrated Clinical Information System (ICIS) was reprogrammed from DHP, O&M (-\$1.485M) to DHP, RDT&E PEC 0605013HP-IT Development (+\$1.485M) for proper execution.

Small Business Innovation Research (SBIR) was transferred from DHP, RDT&E PEC 0605013HP-IT Development for DEBS (-\$0.012M) and for ICIS (-\$0.037M) to DHP, RDT&E PEC 0605502HP-SBIR (+\$0.049M) for proper execution.

Congressional Add for Supervision Using Electro-Active Optics was transferred from DHP, RDT&E PEC 0605013HP-IT Development (\$-3.378M) to DHP, RDT&E PEC 0603115HP-Medical Development (\$+3.378M) to match 08PB controls.

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Congressional Add for Computer Assisted Medical Diagnostics (CAMD) was transferred from DHP, RDT&E PEC 0603115HP-Medical Development (\$-1.448M) to DHP, RDT&E PEC 0605013HP-IT Development (\$+1.448M) to match 08PB controls.

### C. OTHER PROGRAM FUNDING SUMMARY:

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
	<u>Actual</u>	<b>Estimate</b>	<u>Estimate</u>	<b>Estimate</b>	<b>Estimate</b>	<u>Estimate</u>	<b>Estimate</b>	<u>Estimate</u>
DHP Operation & Maintenance	713.915	675.717	681.634	732.892	806.805	820.973	819.057	816.636
BA-1, PE 0807714	2.900	2.900	2.900	2.900	2.900	2.900	2.900	2.900
BA-1, PE 0807724	1.700	1.700	1.700	1.700	1.700	1.700	1.700	1.700
BA-1, PE 0807781	91.785	118.098	121.256	123.131	124.681	126.243	127.827	129.433
BA-1, PE 0807793	592.447	527.169	529.417	578.295	650.355	662.657	658.849	654.512
BA-1, PE 0807795	20.408	21.033	21.450	21.860	22.107	22.355	22.606	22.859
BA-1, PE 0807995	4.675	4.817	4.911	5.006	5.062	5.118	5.175	5.232
DHP Procurement	172.840	210.222	171.792	132.465	117.308	153.896	160.764	158.865
BA-3, PE 0807720		2.000	0.500	0.500	0.510	0.520	0.530	0.541
BA-3, PE 0807721	172.840	208.222	171.292	131.965	116.798	153.376	160.234	158.324

- D. ACQUISITION STRATEGY: Not required
- E. PERFORMANCE METRICS: Not required

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