Department of Defense
Fiscal Year (FY) 2015

March 2014

Defense Health Program

Defense Wide Justification Book Volume 1 of 5

Defense Health Program

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Defense Health Program
Fiscal Year (FY) 2015 Budget Estimates
RDT&E Programs

Appropriation: RDT&E, Defense Health Program ($s M) **Date:** March **2014**

R-1 Line Item No	Program Element Number	Item	Budget Activity	FY 2013 Actual[1]	FY 2014 Enacted[2]	FY2015 Base	FY 2015 OCO	FY 2015 Total Request	FY 2016 Estimates	FY 2017 Estimates	FY 2018 Estimates	FY 2019 Estimates
1	0601101	In-House Laboratory Independent Research (ILIR)	2	0.885	3.002	2.836	0.000	2.836	3.099	3.153	3.379	2.927
2	0601117	Basic Operational Medical Research Sciences	2	4.000	5.904	7.481	0.000	7.481	7.897	9.917	10.895	11.331
3	0602115	Applied Biomedical Technology	2	51.405	60.452	47.898	0.000	47.898	55.101	65.640	72.895	73.840
4	0602787	Medical Technology (AFRRI)	2	1.160	1.182	1.117	0.000	1.117	1.222	1.242	1.331	1.153
5	0603002	Medical Advanced Technology (AFRRI)	2	0.250	0.295	0.279	0.000	0.279	0.305	0.310	0.332	0.287
6	0603115	Medical Technology Development	2	656.441	1085.108	226.131	0.000	226.131	231.951	251.289	268.785	264.226
7	0604110	Medical Products Support and Advanced Concept Development	2	160.717	177.601	97.787	0.000	97.787	95.815	120.502	136.540	151.921
8	0605013	Information Technology Development	2	57.314	41.928	21.696	0.000	21.696	18.862	19.679	23.582	21.386
9	0605023	Integrated Electronic Health Record (iEHR)	2	0.000	19.912	68.267	0.000	68.267	34.560	8.125	0.000	0.000
10	0605025	Theater Medical Information Program - Joint (TMIP-J)	2	0.000	34.470	22.042	0.000	22.042	22.100	22.140	22.180	22.619
11	0605026	Information Technology Development - DoD Healthcare Management System Modernization (DHMSM)	2	0.000	0.000	91.394	0.000	91.394	499.209	373.397	0.000	0.000
12	0605145	Medical Products and Support Systems Development	2	9.240	18.445	14.499	0.000	14.499	19.534	24.729	26.841	31.430
13	0605502	Small Business Innovation Research (SBIR) Program	2	27.307	19.205	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	0606105	Medical Program-Wide Activities	2	40.835	70.535	38.075	0.000	38.075	44.043	30.349	32.646	28.238
15	0607100	Medical Products and Capabilities Enhancement Activities	2	8.177	14.236	15.092	0.000	15.092	17.356	17.647	19.663	19.663
		Total Budget Activity 2		**1017.731**	**1552.275**	**654.594**	**0.000**	**654.594**	**1051.054**	**948.119**	**619.069**	**629.021**

Notes:
1.) FY 2013 actual includes congressional and statutory reductions for Sequestration, SBIR, Sections 3001, 3004, and 8006.
2.) FY 2014 enacted includes congressional and statutory reductions for SBIR on the non CSI DHP RDT&E program.

Department of Defense
FY 2015 President's Budget
Exhibit O-1 FY 2015 President's Budget (RF Excluded)
Total Obligational Authority
(Dollars in Thousands)

12 Feb 2014

Appropriation Summary	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base
Defense-Wide					
Defense Health Program		32,690,271	898,701	33,588,972	31,994,918
Total Defense-Wide		32,690,271	898,701	33,588,972	31,994,918
Total Operation and Maintenance Title		32,690,271	898,701	33,588,972	31,994,918

Department of Defense
FY 2015 President's Budget
Exhibit O-1 FY 2015 President's Budget (RF Excluded)
Total Obligational Authority
(Dollars in Thousands)

12 Feb 2014

0130D Defense Health Program				FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	Sec
Budget Activity 01: Operation & Maintenance									
0130D	010	1	In-House Care		8,881,080	375,958	9,257,038	8,799,086	U
0130D	030	2	Private Sector Care		14,940,256	377,060	15,317,316	15,412,599	U
0130D	050	3	Consolidated Health Support		2,460,640	132,749	2,593,389	2,462,096	U
0130D	070	4	Information Management		1,465,483	2,238	1,467,721	1,557,347	U
0130D	090	5	Management Activities		339,016	460	339,476	366,223	U
0130D	110	6	Education and Training		733,097	10,236	743,333	750,866	U
0130D	130	7	Base Operations/Communications		1,876,660		1,876,660	1,683,694	U
Total, BA 01: Operation & Maintenance					30,696,232	898,701	31,594,933	31,031,911	
Budget Activity 02: RDT&E									
0130D	160	0601	R&D Research		8,906		8,906	10,317	U
0130D	180	0602	R&D Exploratry Development		61,634		61,634	49,015	U
0130D	200	0603	R&D Advanced Development		1,085,403		1,085,403	226,410	U
0130D	220	0604	R&D Demonstration/Validation		177,601		177,601	97,787	U
0130D	240	0605	R&D Engineering Development		133,960		133,960	217,898	U
0130D	260	0606	R&D Management and Support		70,535		70,535	38,075	U
0130D	280	0607	R&D Capabilities Enhancement		14,236		14,236	15,092	U
Total, BA 02: RDT&E					1,552,275		1,552,275	654,594	
Budget Activity 03: Procurement									
0130D	300	7720	PROC Initial Outfitting		64,187		64,187	13,057	U
0130D	320	7721	PROC Replacement & Modernization		377,577		377,577	283,030	U
0130D	340	7744	PROC Theater Medical Information Program					3,145	U
0130D	350	7784	PROC IEHR					9,181	U
Total, BA 03: Procurement					441,764		441,764	308,413	
Total Defense Health Program					32,690,271	898,701	33,588,972	31,994,918	

O-1C1: FY 2015 President's Budget (Published Version), as of February 12, 2014 at 12:34:02

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Program Element Table of Contents (by Budget Activity then Line Item Number)

Budget Activity 02: RDT&E
Appropriation 0130: Defense Health Program

Budget Activity 02: RDT&E
Appropriation 0130: Defense Health Program

Program Element Table of Contents (Alphabetically by Program Element Title)

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program											Date: March 2014	
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0601101HP / *In-House Laboratory Independent Research (ILIR)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	2.827	0.885	3.002	2.836	-	2.836	3.099	3.153	3.379	2.927	Continuing	Continuing
240A: *Infectious Disease (USUHS)*	0.396	0.124	0.419	0.397	-	0.397	0.433	0.440	0.471	0.408	Continuing	Continuing
240B: *Military Operational Medicine (USUHS)*	1.213	0.380	1.288	1.217	-	1.217	1.330	1.354	1.451	1.258	Continuing	Continuing
240C: *Combat Casualty Care (USUHS)*	1.218	0.381	1.295	1.222	-	1.222	1.336	1.359	1.457	1.261	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

For the Uniformed Services University of the Health Sciences (USUHS), 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 towards military relevant medical research projects in order to secure research funds from extramural sources (estimated $127 million annually). Approximately 130 intramural research projects are active each year, including 37 faculty start-ups. 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 Infectious Disease, Military Operational Medicine, Combat Casualty Care, and Chemical, Biological, and Radiologic Defense. The portfolio of research projects will vary annually because this research is investigator-initiated. Examples of typical research efforts are detailed in R-2a.

Infectious Disease: Immunology and molecular biology of bacterial, viral and parasitic disease threats to military operations. These threats include Bartonella bacilliformis, Clostridium difficile, E. coli and their Shiga toxins, Henipaviruses (Hendra & Nipah), Hepatitis A, Helicobacter pylori, HIV, HTLV-1, Leishmaniasis, Malaria, Neisseriae gonorrhea, Shigella spp., Streptococcus, Staphylococcus, and Typhoid fever.

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

Combat Casualty Care: Ischemia and reperfusion injury, traumatic brain and peripheral nerve injury, neural control of pain, endotoxic shock, cryotherapy, malignant hyperthermia, inflammation, and wound healing.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program					Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*			R-1 Program Element (Number/Name) PE 0601101HP / *In-House Laboratory Independent Research (ILIR)*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	3.030	3.088	3.151	-	3.151
Current President's Budget	0.885	3.002	2.836	-	2.836
Total Adjustments	-2.145	-0.086	-0.315	-	-0.315
• Congressional General Reductions	-0.004	-			
• Congressional Directed Reductions	-2.116	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.025	-0.086			
• Reductions related to Departmental Efficiencies - Project Code 240A	-	-	-0.044	-	-0.044
• Reductions related to Departmental Efficiencies - Project Code 240B	-	-	-0.135	-	-0.135
• Reductions related to Departmental Efficiencies - Project Code 240C	-	-	-0.136	-	-0.136

Change Summary Explanation

FY 2013: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), Program Element (PE) 0601101-In-House Laboratory Independent Research (-$0.025 million) to DHP RDT&E, PE 0605502-Small Business Innovation Research (SBIR) Program (+$0.025 million).

FY 2013: General Congressional Reductions to DHP RDT&E, PE 0601101-In-House Laboratory Independent Research (-$0.004 million).

FY 2013: Congressional Directed Reductions (Sequestration) to DHP RDT&E, PE 0601101-In-House Laboratory Independent Research (-$2.116 million).

FY 2014: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), Program Element (PE) 0601101-In-House Laboratory Independent Research (-$0.086 million) to DHP RDT&E, PE 0605502-Small Business Innovation Research (SBIR) Program (+$0.086 million).

FY 2015: Reduces non-combat injury research funding in order to focus and continue the pace of progress in critical and high priority research areas in the DHP RDT&E, PE 0601101-In-House Laboratory Independent Research (-$0.315 million).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601101HP / *In-House Laboratory Independent Research (ILIR)*	Project (Number/Name) 240A / *Infectious Disease (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
240A: *Infectious Disease (USUHS)*	0.396	0.124	0.419	0.397	-	0.397	0.433	0.440	0.471	0.408	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Infectious Diseases: Immunology and molecular biology of bacterial, viral and parasitic disease threats to military operations. These threats include Bartonella bacilliformis, Clostridium difficile, E. coli and their Shiga toxins, Henipaviruses (Hendra & Nipah), Hepatitis A, Helicobacter pylori, HIV, HTLV-1, Leishmaniasis, Malaria, Neisseriae gonorrhea, Shigella spp., Streptococcus, Staphylococcus, and Typhoid fever.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Infectious Disease	0.124	0.419	0.397

Description: Infectious Diseases: Immunology and molecular biology of bacterial, viral and parasitic disease threats to military operations. These threats include Bartonella bacilliformis, Clostridium difficile, E. coli and their Shiga toxins, Henipaviruses (Hendra & Nipah), Hepatitis A, Helicobacter pylori, HIV, HTLV-1, Leishmaniasis, Malaria, Neisseriae gonorrhea, Shigella spp., Streptococcus, Staphylococcus, and Typhoid fever.

FY 2013 Accomplishments:

Representative projects include the following: Determination of the factors responsible for maintaining and driving the immune response against helminth (parasitic worm) infections eventually leading to effective vaccines against these infections; investigation of skin and soft tissue infections (SSTI) in the military population, generally caused by community-associated methicillin-resistant Staphylococcus aureus (CA-MRSA), towards the development of novel prevention and treatment strategies; investigation of the Henipaviruses and their bat hosts towards the development of novel intervention and vaccine strategies; development of a cutaneous leishmaniasis vaccine to prevent parasitic infection; elucidation of the natural transmission of Bartonella bacilliformis by the sand fly towards disease prevention and control; surveillance and treatment of Rickettsia parkeri and their associated tick vectors; analysis of genetic factors resulting in colonization of the host intestinal tract by Escherichia coli O157:H7, the most common infectious cause of bloody diarrhea & hemorrhagic colitis; and the health behaviors and deployment factors that are associated with acquisition of sexually transmitted diseases (STDs).

These projects will support the essential military mission by advancing our understanding of both the transmission and the internal mechanisms of a spectrum of pernicious and/or common diseases that may be faced by warfighters both at home and abroad.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0601101HP / *In-House Laboratory Independent Research (ILIR)*	**Project (Number/Name)** 240A / *Infectious Disease (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
In turn, that understanding opens avenues to better control, diagnosis, and treatment of both natural and manmade biological threats. ***FY 2014 Plans:*** We will continue to investigate infectious diseases that impact soldiers from the standpoint of lost "man-days" to death. We recognize that infectious disease can severely hamper combat readiness and effectiveness, and therefore we will continue to concentrate our efforts on diagnosis and treatment of those naturally occurring infectious diseases that can affect the war fighter by further development of vaccines, drugs, and diagnostic tools. ***FY 2015 Plans:*** Efforts will continue within the Infectious Disease research area in FY 2015. Specific investigator-initiated projects compete for funding each year, usually with two to three-year project periods. Therefore, no detailed description of the research is possible at this time.			
Accomplishments/Planned Programs Subtotals	0.124	0.419	0.397

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601101HP / *In-House Laboratory Independent Research (ILIR)*	Project (Number/Name) 240B / *Military Operational Medicine (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
240B: *Military Operational Medicine (USUHS)*	1.213	0.380	1.288	1.217	-	1.217	1.330	1.354	1.451	1.258	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Military Operational Medicine	0.380	1.288	1.217

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

FY 2013 Accomplishments:

Representative projects will include the following: Refinement of a single item post traumatic stress disorder (PTSD) screening tool for use in the DOD Primary Care system; understanding and attenuating deleterious effects of tobacco, alcohol, stress and their interactions upon military personnel; forecasting levels of full or threshold PTSD, depression, health and alcohol problems within the military population; understanding the determinants of health promoting behaviors towards preventing obesity in both active duty military and their family members; implementation of a neuromuscular routine that minimizes musculoskeletal injury in military academy cadets; evaluation of suicidal behaviors within recent suicide deaths of active duty service members to aid in identification and prevention efforts; determination of the psychosocial and biomedical risks and protective factors for heart failure and ischemia within the military and veteran population; and the determination of non-invasive neurological biomarkers for heat intolerance using in vivo Magnetic Resonance Imaging (MRI) and Spectroscopy (MRS).

These studies support the essential military mission by enhancing and protecting the health, performance and fitness of soldiers throughout the deployment cycle. These studies strive to increase our understanding of and ability to manipulate the physiological mechanisms of stress and immunity, human sleep and seasonal cycles, and neurological changes necessary for short- and long-term memory. Their discoveries should enable warfighters to stay awake longer with fewer detriments to performance; lead to better strategies for enhancing and preserving memory and reasoning capabilities under battle conditions; help understand and ultimately prevent and treat neuropsychiatric illnesses such as depression and PTSD; and assist deployed troops and their families better prepare for and contend with common, significant stressors related to the deployment cycle

FY 2014 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0601101HP / *In-House Laboratory Independent Research (ILIR)*	**Project (Number/Name)** 240B / *Military Operational Medicine (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Our efforts will concentrate on biomedical solutions that protect and enhance the health, performance, and fitness of our soldiers. Our focus will continue to be to understand stress as it is related to performance and health. We will also study performance in environmental extremes. Our goal is to lay the ground work that will establish platforms that build biomedical products and solutions that mitigate risk to soldiers and protect them from "head to toe" both on the battlefield and at home. ***FY 2015 Plans:*** Efforts will continue within the Military Operational Medicine research area in FY 2015. Specific investigator-initiated projects compete for funding each year, usually with two to three-year project periods. Therefore, no detailed description of the research is possible at this time.			
Accomplishments/Planned Programs Subtotals	0.380	1.288	1.217

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601101HP / *In-House Laboratory Independent Research (ILIR)*	Project (Number/Name) 240C / *Combat Casualty Care (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
240C: *Combat Casualty Care (USUHS)*	1.218	0.381	1.295	1.222	-	1.222	1.336	1.359	1.457	1.261	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Combat Casualty Care: Ischemia and reperfusion injury, traumatic brain and peripheral nerve injury, neural control of pain, endotoxic shock, cryotherapy, malignant hyperthermia, inflammation, and wound healing.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Combat Casualty Care	0.381	1.295	1.222

Description: Combat Casualty Care: Ischemia and reperfusion injury, traumatic brain and peripheral nerve injury, neural control of pain, endotoxic shock, cryotherapy, malignant hyperthermia, inflammation, and wound healing.

FY 2013 Accomplishments:

Representative projects will include: Investigation of synaptic plasticity in temporal lobe epilepsy and possible development of novel therapies; determination whether BMP-2 is a effective therapy to promotes recapitulation of the meninges surrounding the spinal cord; understanding the contribution of inflammation to post-injury loss of function after traumatic brain and spinal cord injury; identifying how the formation of nerve cell circuits in the brain are affected by psychological stress and traumatic brain injury; analysis of the underlying mechanisms responsible for the development of tolerance following the chronic use of opiates for severe pain; development of psychological interventions to be used with military health care providers who experience post-traumatic stress symptoms to prevent burn-out; and development of accurate millisecond-level assessment tools and computer based analyses to assist in the evaluation and assessment of traumatic brain injury.

These studies support the essential military mission by further exploring the mechanism of pain control for an established treatment; providing the groundwork for effective treatments to limit nerve damage and encourage regeneration; and identifying a possible cause for life-threatening complications due to the combination of exertion and injury common under heavy battlefield conditions.

FY 2014 Plans:

Our efforts will concentrate on diagnosis and treatment for our wounded warriors to reduce mortality and morbidity resulting from injuries on the battlefield. We will study physical and biological determinants of brain injury and post-traumatic stress disorder. In

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0601101HP / *In-House Laboratory Independent Research (ILIR)*	**Project (Number/Name)** 240C / *Combat Casualty Care (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
addition, we will also focus on rehabilitation for amputees and pain management. Our goal is to understand how to best care for soldiers who have suffered any type of physical or mental traumatic injury in the field. ***FY 2015 Plans:*** Efforts will continue within the Combat Casualty Care research area in FY 2015. Specific investigator-initiated projects compete for funding each year, usually with two to three-year project periods. Therefore, no detailed description of the research is possible at this time.			
Accomplishments/Planned Programs Subtotals	0.381	1.295	1.222

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0601117HP *I Basic Operational Medical Research Sciences*

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	1.000	4.000	5.904	7.481	-	7.481	7.897	9.917	10.895	11.331	Continuing	Continuing
100A: *CSI - Congressional Special Interests*	1.000	1.237	-	-	-	-	-	-	-	-	Continuing	Continuing
371A: *GDF-Basic Operational Medical Research Sciences*	0.000	2.763	5.904	7.481	-	7.481	7.897	9.917	10.895	11.331	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force-Basic Operational Medical Research Sciences: This program element (PE) provides support for basic medical research directed toward greater knowledge and understanding of the fundamental principles of science and medicine that are relevant to the improvement of Force Health Protection. 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 is peer-reviewed and 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 Research, Development, Test and Evaluation (RDT&E) funding. Research supported by this PE includes polytrauma (multiple traumatic injuries) and blast injury, diagnosis and treatment of brain injury, and psychological health and well-being for military personnel and families. Funds in this PE are for basic research that promises to provide important new approaches to complex military medical problems. As the research efforts mature, the most promising efforts will transition to applied research (PE 0602115HP) or technology development (0603115HP) funding.

The FY13 DHP Congressional Special Interest (CSI) funding supported peer-reviewed, directed basic research for Traumatic Brain Injury and Psychological Health projects. Because of the CSI annual structure, out-year funding is not programmed.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0601117HP / *Basic Operational Medical Research Sciences*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	3.038	6.074	11.121	-	11.121
Current President's Budget	4.000	5.904	7.481	-	7.481
Total Adjustments	0.962	-0.170	-3.640	-	-3.640
• Congressional General Reductions	-0.005	-			
• Congressional Directed Reductions	-0.107	-			
• Congressional Rescissions	-	-			
• Congressional Adds	1.345	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.271	-0.170			
• Reductions related to Departmental Efficiencies - Project 371A	-	-	-3.640	-	-3.640

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 100A: *CSI - Congressional Special Interests*		
Congressional Add: *425A - Traumatic Brain Injury/ Psychological Health*	1.237	-
Congressional Add Subtotals for Project: 100A	1.237	-
Congressional Add Totals for all Projects	1.237	-

Change Summary Explanation

FY 2013: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), Program Element (PE) 0601117-Basic Operational Medical Research Sciences (-$0.271 million) to DHP RDT&E, PE 0605502-Small Business Innovation Research (SBIR) Program (+$0.271 million).

FY 2013: Congressional Special Interest (CSI) Additions to DHP RDT&E, PE 0601117-Basic Operational Medical Research Sciences (+$1.345 million).

FY 2013: General Congressional Reductions to DHP RDT&E, PE 0601117-Basic Operational Medical Research Sciences (-$0.005 million).

FY 2013: Congressional Directed Reductions (Sequestration) to DHP RDT&E, PE 0601117-Basic Operational Medical Research Sciences (-$0.107 million).

FY 2014: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), Program Element (PE) 0601117-Basic Operational Medical Research Sciences (-$0.170 million) to DHP RDT&E, PE 0605502-Small Business Innovation Research (SBIR) Program (+$0.170 million).

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0601117HP *I Basic Operational Medical Research Sciences*

FY 2015: Reduces non-combat injury research funding in order to focus and continue the pace of progress in critical and high priority research areas for DHP RDT&E, PE 0601117-Basic Operational Medical Research Sciences (-$3.640 million).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601117HP / *Basic Operational Medical Research Sciences*	Project (Number/Name) 100A / *CSI - Congressional Special Interests*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
100A: *CSI - Congressional Special Interests*	1.000	1.237	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The FY13 DHP Congressional Special Interest (CSI) funding is directed research for TBI/PH. Because of the CSI annual structure, out-year funding is not programmed.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
Congressional Add: 425A - Traumatic Brain Injury/ Psychological Health	1.237	-
FY 2013 Accomplishments: The Traumatic Brain Injury/Psychological Health Congressional Special Interest project funding was divided into basic science, applied research, technology development and concept development efforts. For the basic science funding in the area of Psychological Health, Military Operational Medicine released a program announcement seeking proposals to understand fundamental mechanisms of psychological injuries such as post-traumatic stress disorder (PTSD) and depression, psychosocial (psychological development in, and interaction with, a social environment) issues related to sexual trauma, workplace violence in the military, and alcohol and substance abuse in the military.		
Congressional Adds Subtotals	1.237	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601117HP / *Basic Operational Medical Research Sciences*	Project (Number/Name) 371A / *GDF-Basic Operational Medical Research Sciences*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
371A: *GDF-Basic Operational Medical Research Sciences*	-	2.763	5.904	7.481	-	7.481	7.897	9.917	10.895	11.331	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force-Basic Operational Medical Research Sciences: Basic research described here will be focused on enhancement of knowledge to support capabilities identified through the Joint Capabilities Integration and Development System (JCIDS) process and the strategy and initiatives addressed in the Quadrennial Defense Review (QDR). Apart from prevailing in current conflicts, the QDR states that taking care of our wounded warriors is DoD's highest priority. Within this Program Element, research will be conducted in the general categories of polytrauma (multiple traumatic injuries) and blast injury, diagnosis and treatment of brain injury, military infectious diseases, and operational medicine. Polytrauma and blast injury efforts will focus on fundamental mechanisms to support devices and therapeutics for hemorrhage (bleeding) control, resuscitation and blood products, and blast injury models and performance standards for protections systems. Military infectious diseases research will conduct basic research to identify biomarkers for detecting bacterial wound infections. Operational medicine will focus on fundamental mechanisms to support research on fatigue mechanisms, prevention of training and operational injury, and military operational computational modeling.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Project 371 GDF – Basic Operational Medical Research Sciences	2.763	5.904	7.481
Description: Provide support for basic medical research directed toward attaining greater knowledge and understanding of fundamental principles of science and medicine relevant to the improvement of medical care in operationally relevant environments.			
FY 2013 Accomplishments: Combat casualty care research conducted studies to understand the fundamental mechanisms in support of diagnosis and treatment of excessive hemorrhage resulting from severe trauma. This research responds to the Joint Capabilities Integration Development System requirement to stop life-threatening bleeding, and the Quadrennial Defense Review requirement to improve treatment for wounded warriors.			
FY 2014 Plans: Military operational medicine research is conducting studies to understand fundamental effects of exposure to blast, which will inform the development of performance standards for protection systems. Other research efforts aim to advance knowledge in methods to prevent training and operational injury, understand fatigue mechanisms, and develop computational models to study heat stress, bone fractures, and airway diseases.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0601117HP / *Basic Operational Medical Research Sciences*	**Project (Number/Name)** 371A / *GDF-Basic Operational Medical Research Sciences*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Military infectious diseases research will support a number of basic research studies in wound infection prevention and management to identify host and pathogen biomarkers for detection of bacterial infections. Military operational medicine research will continue studies initiated in FY14 to understand effects of exposure to blast, methods to prevent training and operational injury, fatigue mechanisms and development of computational models to study heat stress, bone fractures, and airway diseases. The Military Operational Medicine Joint Program Committee will issue program announcements with topics in the areas of physiological) health, injury prevention and reduction, environmental health and protection, and psychological health. Combat casualty care basic research will identify underlying pathophysiologic (functional changes associated with injury) mechanisms associated with coagulopathy (inability of blood to clot normally) of trauma, and conduct basic research studies to identify potential diagnostic and therapeutic targets of coagulopathy of trauma.			
Accomplishments/Planned Programs Subtotals	2.763	5.904	7.481

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Principal investigators will participate in in-progress reviews, DHP-sponsored review & analysis meetings, submit quarterly and annual status reports, and are subjected to Program Sponsor Representative progress reviews to ensure that milestones are being met and deliverables will be transitioned on schedule. The benchmark performance metric for transition of research conducted with basic science funding will be the attainment of a maturity level that is typical of Technology Readiness Level 2 or the equivalent for knowledge products.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program											Date: March 2014	
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0602115HP / *Applied Biomedical Technology*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	67.160	51.405	60.452	47.898	-	47.898	55.101	65.640	72.895	73.840	Continuing	Continuing
200A: *Congressional Special Interests*	34.750	21.133	15.000	-	-	-	-	-	-	-	-	-
306B: *Advanced Diagnostics & Therapeutics Research & Development (Air Force)*	3.377	-	3.535	2.968	-	2.968	3.456	3.515	3.975	3.038	Continuing	Continuing
372A: *GDF Applied Biomedical Technology*	29.033	30.272	33.192	37.755	-	37.755	43.579	53.913	59.631	63.703	Continuing	Continuing
447A: *Military HIV Research Program (Army)*	0.000	-	8.725	7.175	-	7.175	8.066	8.212	9.289	7.099	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

For the Guidance for Development of the Force - Applied Biomedical Technology: This applied research funding is 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 program element 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, and the strategy and initiatives described in the Quadrennial Defense Review. Program development is peer-reviewed and fully coordinated with all 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 (DHP) Research, Development, Test and Evaluation (RDT&E) funding. Research supported by this program element includes hemorrhage (bleeding) control, resuscitation and blood products; forward surgical and intensive critical care; en route care; treatments for extremity trauma, tissue injury, cranio-maxillofacial injury (injury to the head, face, jaw, and mouth), lung injury, and burns; rehabilitation; diagnosis and treatment of brain injury; operational health and performance; radiation countermeasures; and psychological health and well-being for military personnel and families. Applied research in military infectious diseases focuses on wound infection prevention, antimicrobial countermeasures and diagnostic systems for infectious diseases. As research efforts mature, the most promising efforts will transition to technology development (PE 0603115HP) or advanced concept development (PE 0604110HP) funding.

For the Army Medical Command, beginning in FY14, the military HIV research program funding is transferred from the Army to the Defense Health Program. Work in this area includes refining improved identification methods to determine genetic diversity of the virus, preclinical work in laboratory animals including non-human primates to identify candidates for global HIV-1 vaccine, and evaluating and preparing overseas sites for clinical trials with these vaccine candidates.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0602115HP / *Applied Biomedical Technology*

The Army Medical Command also received DHP Congressional Special Interest (CSI) research funding focused on Peer-Reviewed Traumatic Brain Injury and Psychological Health Research. Because of the CSI annual structure, out-year funding is not programmed.

For the Air Force, this PE funds applied research which seeks to promote 'omic'-informed personalized medicine with an emphasis on targeted prevention, diagnosis, and treatment. The delivery of pro-active, evidence-based, personalized medicine will improve health in Warfighters and beneficiaries by providing care that is specific to the situation and patient, to include preventing disease or injury, early and accurate diagnosis, and selection of appropriate and effective treatment. Personalized medicine will reduce morbidity, mortality, mission impact of illness/injury, and healthcare costs while increasing health and wellness of the AF population and efficiency of the healthcare system. This applied research supports multiple focus areas, each of which represents an identified barrier/gap which must be addressed for successful implementation of 'omic-informed personalized medicine. Focus areas for applied research include knowledge generation research; ethical legal and social issues/ policy research; bioinformatics research; educational research; research for development of advanced genomic diagnostic system. For efforts supported by this program element, research will be pursued with the intent to support solutions that answer Air Force specific needs. During this process, the efforts of other government agencies in those areas will be assessed to avoid redundancy.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	42.188	46.761	66.699	-	66.699
Current President's Budget	51.405	60.452	47.898	-	47.898
Total Adjustments	9.217	13.691	-18.801	-	-18.801
• Congressional General Reductions	-0.086	-			
• Congressional Directed Reductions	-12.063	-			
• Congressional Rescissions	-	-			
• Congressional Adds	22.988	15.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.622	-1.309			
• Reductions related to Departmental Efficiencies - Project 306B	-	-	-0.742	-	-0.742
• Reductions related to Departmental Efficiencies - Project 372A	-	-	-16.265	-	-16.265
• Reductions related to Departmental Efficiencies - Project 447A	-	-	-1.794	-	-1.794

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 200A: *Congressional Special Interests*		
Congressional Add: *426A – Traumatic Brain Injury and Psychological Health (TBI/PH) (Army)*	21.133	15.000
Congressional Add Subtotals for Project: 200A	21.133	15.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0602115HP *I Applied Biomedical Technology*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Congressional Add Totals for all Projects	21.133	15.000

Change Summary Explanation

FY 2013: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), Program Element (PE) 0602115-Applied Biomedical Technology (-$1.622 million) to DHP RDT&E, PE 0605502-Small Business Innovation Research (SBIR) Program (+$1.622 million).

FY 2013: Congressional Special Interest (CSI) additions to DHP RDT&E, PE 0602115-Applied Biomedical Technology (+$22.988 million).

FY 2013: General Congressional Reductions to DHP RDT&E, PE 0602115-Applied Biomedical Technology (-$0.086 million).

FY 2013: Congressional Directed Reductions (Sequestration) to DHP RDT&E, PE 0602115-Applied Biomedical Technology (-$12.063 million).

FY 2014: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), Program Element (PE) 0602115-Applied Biomedical Technology (-$1.309 million) to DHP RDT&E, PE 0605502-Small Business Innovation Research (SBIR) Program (+$1.309 million).

FY 2014: Congressional Special Interest (CSI) Additions to DHP RDT&E, PE 0602115-Applied Biomedical Technology (+$15.000 million).

FY 2015: Reduces non-combat injury research funding in order to focus and continue the pace of progress in critical and high priority research areas for DHP RDT&E, PE 0602115-Applied Biomedical Technology (-$18.801 million).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115HP / *Applied Biomedical Technology*	Project (Number/Name) 200A / *Congressional Special Interests*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
200A: *Congressional Special Interests*	34.750	21.133	15.000	-	-	-	-	-	-	-	-	-

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

For FY13, DHP Congressional Special Interest (CSI) funding is directed to stimulate innovative research through a competitive, peer-reviewed research program focused on peer-reviewed traumatic brain injury and psychological health research. Because of the CSI annual structure, out-year funding is not programmed.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
Congressional Add: 426A – Traumatic Brain Injury and Psychological Health (TBI/PH) (Army)	21.133	15.000
FY 2013 Accomplishments: The Traumatic Brain Injury and Psychological Health (TBI/PH) Congressional Special Interest program aims to prevent, mitigate, and treat the effects of combat-relevant traumatic stress and TBI on function, wellness, and overall quality of life, including interventions across the deployment lifecycle for warriors, Veterans, family members, caregivers, and communities. Project funding was divided into basic science, applied research, technology development and concept advanced development efforts. A key priority of the TBI/PH research program is to complement ongoing DoD efforts to ensure the health and readiness of our military forces by promoting a better standard of care for post traumatic stress disorder (PTSD) and TBI in the areas of prevention, detection, diagnosis (identification of the nature and cause of an illness), treatment, and rehabilitation. Program announcements, programmatic reviews, Service-requested nominations, and ongoing studies that would benefit from program acceleration have been incorporated to address these priorities and gather proposals. In the area of TBI, researchers performed investigations to find a universally-agreed upon concussion grading system, and continued experiments into the effects of penetrating injuries on the brain and experiments on the effects of blasts on the brain. Proposals were solicited in the areas of blast-induced hyper-acceleration upon the generation of TBI and the role of inflammation in spreading TBI damage. In addition, a new Department of Veterans Affairs/Department of Defense (VA/DoD) neurotrauma consortium program announcement was released to form a five-year, multi-university consortium to discover mechanisms of treatment and the long-term effects of TBI and its relationship to chronic traumatic encephalopathy (CTE), a degenerative brain disease diagnosed properly after death in patients with a history of multiple concussions. Multiple awards relevant to combat casualty care were made including development of a large animal model of penetrating ballistic brain injury and development of metrics to define concussion and grade TBI. In the area of psychological health, researchers performed investigations on methods to prevent and reduce symptoms of PTSD, to understand how the deployment cycle affects marriage quality and stability, workplace violence in the		

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115HP / *Applied Biomedical Technology*	**Project (Number/Name)** 200A / *Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
military, and alcohol use and co-occurring PTSD. Furthermore, a new VA/DoD consortium to alleviate PTSD program announcement was released to address PTSD treatment needs. ***FY 2014 Plans:*** This Congressional Special Interest project will support Traumatic Brain Injury and Psychological Health research.		
Congressional Adds Subtotals	21.133	15.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Individual efforts are monitored through a quarterly annual project performance reporting system and program management review process -- performance is measured against standardized criteria for cost, schedule and performance (technical objectives), key performance parameters, and resolution of Force Health Protection gaps. Variances, deviations, and/or breaches in key areas are reviewed and a decision is rendered on any adjustments through a formalized process of Science and Technology (S&T) governance.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115HP / *Applied Biomedical Technology*	Project (Number/Name) 306B / *Advanced Diagnostics & Therapeutics Research & Development (Air Force)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
306B: *Advanced Diagnostics & Therapeutics Research & Development (Air Force)*	3.377	-	3.535	2.968	-	2.968	3.456	3.515	3.975	3.038	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Advanced Diagnostics & Therapeutics Clinical Translational Applied Research (Air Force): This project provides applied research funding needed to increase efficiency and efficacy of care across the spectrum of Advanced Diagnostics and Therapeutics requirements in the defined Modernization Thrust Areas to improve and enhance clinical Diagnosis, Identification, Quantification and Mitigation (DIQM) methods, techniques protocols, guidelines and practices for all DoD wounded, ill and/or injured beneficiaries.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Advanced Diagnostics & Therapeutics Research & Development (Air Force)	-	3.535	2.968

Description: Advanced Diagnostics & Therapeutics Clinical Translational Applied Research (Air Force): This project provides applied research funding needed to increase efficiency and efficacy of care across the spectrum of Advanced Diagnostics and Therapeutics requirements in the defined Modernization Thrust Areas to improve and enhance clinical Diagnosis, Identification, Quantification and Mitigation (DIQM) methods, techniques protocols, guidelines and practices for all DoD wounded, ill and/or injured beneficiaries.

FY 2013 Accomplishments:

Continue to support regenerative medicine program at Armed Forces Institute of Regenerative Medicine. Perform AF Surgeon General directed deep dive on Health as a National Strategic Imperative/Lifestyle Medicine. Assess initial results of nanotechnology research projects at the Massachusetts Institute of Technology as they relate to Enroute Care and Expeditionary Medicine missions. Transfer the leadership of the continuing forum to educate leaders on futures based thinking from AFMS/SG to OSD/HA. Continue research on the development of a global events tool. Sponsor symposium on translating genomic medicine through provider education. Continue the genomics clinical utility study. Implement a milestone approach for Personalized Medicine/Genomic Medicine. Continue to leverage joint diagnostic efforts to meet AF mission requirements. Transition findings / outcomes of intramural project to identify and characterize epigenetic biomarkers of stress caused by high altitude conditions in a collaborative clinical translational research project in collaboration with the Uniformed Services University of the Healthcare Sciences (USUHS) to clinical practice / practice guidelines.

FY 2014 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115HP / *Applied Biomedical Technology*	**Project (Number/Name)** 306B / *Advanced Diagnostics & Therapeutics Research & Development (Air Force)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue to support regenerative medicine program at Armed Forces Institute of Regenerative Medicine. Perform AF Surgeon General directed deep-dive on topic to be determined; develop a database library of submissions and topics for further use within the AFMS community. Complete nanotechnology research projects at the Massachusetts Institute of Technology. Analyze outcomes of symposium. Complete genomics clinical utility study. Continue to mature the global events tool. ***FY 2015 Plans:*** Continue FY14 actions.			
Accomplishments/Planned Programs Subtotals	-	3.535	2.968

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Interagency Agreements and Interservice Support Agreements with the US Army, US Navy and the Department of Homeland Security are used to support ongoing scientific and technical efforts within this program -- these agreements are supplemented with Broad Area Announcement (BAA) and Intramural calls for proposal are used to award initiatives in this program and project following determinations of scientific and technical merit, validation of need, prioritization, selection and any necessary legal and/or regulatory approvals (IRB, etc).

E. Performance Metrics

Individual initiatives are measured through a quarterly annual project performance reporting system and program management review process -- performance is measured against standardized criteria for cost, schedule and performance (technical objectives) and key performance parameters. Variances, deviations and/or breaches in key areas are reviewed and a decision is rendered on any adjustments through a formalized process of S&T governance.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115HP / *Applied Biomedical Technology*	Project (Number/Name) 372A / *GDF Applied Biomedical Technology*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
372A: *GDF Applied Biomedical Technology*	29.033	30.272	33.192	37.755	-	37.755	43.579	53.913	59.631	63.703	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force - Applied Biomedical Technology: Applied biomedical technology research will focus on refining concepts and ideas into potential solutions to military problems and conducting analyses of alternatives to select the best potential solution for further advanced technology development. Applied research will be conducted in the general categories of trauma, polytrauma (multiple traumatic injuries) and blast injury, rehabilitation, diagnosis and treatment of brain injury, radiation countermeasures, operational health and performance, and psychological health and well-being for military personnel and families. Applied research in traumatic brain injury (TBI) focuses on diagnosis and treatment, disentanglement of combat stress injuries, and TBI in evaluations and clinical management. Trauma, polytrauma and blast injury applied research focuses on control of bleeding, tissue viability (survival potential of a tissue or organ), diagnosis and life support, cranio-maxillofacial (head, neck, face, and jaw) injury, evacuation applications and practices, forward surgical applications, blast injury models and performance standards for protection systems, blast induced brain injury models, diagnostics and metrics for hearing loss and protection, blast exposure and breaching (process used to force open closed and/or locked doors), scar contracture (tightening of muscle, tendons, ligaments or skin that prevents normal movement), treatment of ocular and visual system traumatic injury, rapid screening of fresh whole blood, wound infection prevention and management, and antimicrobial (a substance that kills or inhibits the growth of microorganisms) countermeasures.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: GDF Applied Biomedical Technology	30.272	33.192	37.755
Description: Applied Biomedical Technology Research focuses on refining concepts and ideas into potential solutions to military problems and conducting analyses of alternatives to select the best potential solution for further advanced technology development.			
FY 2013 Accomplishments: Military infectious diseases research supported multi-year studies, initiated in FY11 and FY12, in development of antibacterial agents for biofilms (a slime surface aggregate of microorganisms in which cells adhere to each other on a surface) and multidrug-resistant organisms (MDROs), detection of MDROs, and biomarker (indicator of biological state or the past or present existence of a particular type of organism or molecule) and diagnostic assay (test) development for down selection and transition of promising efforts to medical technology development. Military operational medicine researchers performed studies on: validation of the predictive capacity of biomarkers (indicator of biological state or the past or present existence of a particular type of organism or molecule) of lung disease identified			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115HP / *Applied Biomedical Technology*	**Project (Number/Name)** 372A / *GDF Applied Biomedical Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
in pulmonary (pertaining to the lungs) samples from deployed Warfighters exposed to potentially toxic particulate material; development of a scoring system for small airways disease to standardize interpretation of lung biopsies (sampling of tissue or cells for examination); analysis of mineral, fiber, and particulate matter components in post-deployment lung tissue samples compared to controls; determination of psychological, interpersonal, and social factors and assets that predict a resilient trajectory following exposure to adversity during the deployment cycle; evaluation of nutrition and dietary supplement benefits to physiological (human mechanical, physical and biochemical functions) health; evaluation of specific factors that may modify the causal relationship between individual factors such as demographics, military occupational specialties and prior health, family factors and deployment factors on diagnosis of mental illness and intra-family violence; establishment of recommendations to enhance the successful implementation of future interventions for mental illness and intra-family violence; and identification of specific targets with relevance for drug treatment development in PTSD that will lead to the development of a pharmacological (drug) treatment for PTSD. Combat casualty care researchers continued studies, initiated in FY11 and FY12, in hemorrhagic (bleeding) shock and trauma, TBI biomarkers (indicator of biological state or the past or present existence of a particular type of organism or molecule)and screening tools, en route care, permanent pathology caused by mild and moderate TBI and combination drug therapies. Researchers started applied technology research of selected candidate products identified in basic research and issued a program announcement for further applied research. Radiation health effects and countermeasure research addressed advances in the development of small molecules, protein, and cellular-based strategies for protection and mitigation of radiation-induced tissue injury due to high doses of radiation exposure. Completed animal studies in mice and non-human primates, which showed promising results mitigating gastrointestinal and lung injury resulting from lethal doses of radiation. Clinical and rehabilitative medicine continued studies in neuromusculoskeletal (system of nerves, muscles, and bones that enable movement) injury, pain management, regenerative medicine, and/or sensory system traumatic injury to identify and evaluate candidate approaches for incorporation into restoration and rehabilitation strategies and medical products. Specific focus areas included: neuromusculoskeletal injury rehabilitation strategies and devices, prosthetics (artificial device that replaces a missing body part lost through trauma, disease, or congenital conditions), and the prevention of heterotopic ossification (growth of bone in abnormal places like soft tissue); novel therapeutics and devices for pain management; regenerative medicine-based approaches for limb (extremities) and digit (fingers, thumbs and toes) salvage, cranio-maxillofacial (skull, face and jaw) reconstruction, scarless wound healing, burn repair, genitourinary (system of the reproductive and urinary organs) restoration and addressing compartment syndrome (muscle and nerve damage due to swelling post-injury); and restoration and rehabilitation of			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115HP / *Applied Biomedical Technology*	**Project (Number/Name)** 372A / *GDF Applied Biomedical Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015

sensory system injury, including vision, hearing and balance injury and dysfunction. The majority of sensory system efforts were postponed to FY14 due to sequestration.

FY 2014 Plans:

Military infectious disease research is continuing development of the rapid Nucleic Acid Test screening of donor derived fresh whole blood in emergency settings for infectious diseases. Down selection of the Nucleic Acid Testing platform is being conducted in Q4FY14. A program announcement for FY14 is soliciting novel proposals in the areas of wound infection prevention and management drug discovery to combat multiple-drug resistant bacterial infections and to identify host and pathogen biomarkers to detect bacterial infections in wounds.

Military operational medicine researchers are conducting studies, initiated in FY12 and FY13, in nutrition and dietary supplements, Warfighter performance and sustainment in extreme environments (such as extreme heat, cold, or altitude), return to duty/medical standards criteria, blast injury models and performance standards for protections systems, diagnostics and metrics for hearing loss and protection, alcohol and substance abuse, diagnosis of deployment-related psychological health problems, diagnosis of post-traumatic stress disorder (PTSD), military family and Warfighter resilience, suicide prevention, pulmonary (pertaining to the lungs) health in the deployed environment, and blast exposure during breaching (process used to force open closed and/or locked doors). Program announcements are soliciting proposals in the areas of physiological (human mechanical, physical and biochemical functions) health, injury prevention and reduction, psychological health, and environmental health and protection.

Combat casualty care research is supporting multi-year studies, initiated in FY12 and FY13, in hemorrhagic (bleeding) shock and trauma, TBI biomarkers (indicator of biological state or the past or present existence of a particular type of organism or molecule)and screening tools, en route care, permanent pathology caused by mild and moderate TBI and combination drug therapies. Researchers are transitioning selected basic research efforts into applied technology research for promising candidate products. Program announcements are under development for hemorrhage (bleeding) and resuscitation, multimodal neurodiagnostic approaches (combined methods to diagnose neurological conditions), and soft tissue injury and wound healing research.

Radiation health effects and countermeasure research is developing small molecules, protein, and cellular-based strategies for protection and mitigation of radiation-induced tissue injury due to high doses of radiation exposure. Conduct animal studies in mice and non-human primates to characterize promising candidates shown to mitigate or prevent Acute Radiation Syndrome resulting from lethal doses of radiation.

Clinical and rehabilitative medicine is conducting studies in neuromusculoskeletal (system of nerves, muscles, and bones that enable movement) injury, pain management, regenerative medicine, and/or sensory (hearing and sight) system traumatic injury to

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115HP / *Applied Biomedical Technology*	**Project (Number/Name)** 372A / *GDF Applied Biomedical Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015

identify and evaluate candidate approaches for incorporation into restoration and rehabilitation strategies and medical products. Specific focus areas include: neuromusculoskeletal injury rehabilitation strategies and devices, prosthetics & orthotics (device/support that corrects/relieves an orthopedic problem), neural interfaces (invasive and non-invasive methods of using the brain for device control), the prevention of heterotopic ossification (growth of bone in abnormal places like soft tissue), and treatment of training injuries to the musculoskeletal system; novel therapeutics and devices for pain management; regenerative medicine-based approaches for limb (extremities) and digit (fingers, thumbs and toes) salvage, craniomaxillofacial (skull, face and jaw) reconstruction, scarless wound healing, burn repair, genitourinary restoration and addressing compartment syndrome (muscle, nerve and vascular damage due to swelling post-injury); and restoration and rehabilitation of sensory system injury, including vision, hearing and balance injury and dysfunction. Clinical and rehabilitative medicine is supporting studies started in FY13 focused on evaluating and down-selecting novel diagnostic and treatment strategies in the areas of pain management and sensory system (vision, hearing, and balance) restoration and rehabilitation. Sensory system efforts to be initiated in FY13 were postponed to FY14 due to FY13 sequestration.

FY 2015 Plans:

Military infectious disease research will support multi-year studies in wound infection prevention and management, initiated in FY14, in development of one antibacterial drug class project and one host/pathogen (infectious agent) biomarker project for the detection of bacterial infections in wounds. The second year support will include confirmatory laboratory studies and initial animal studies to demonstrate the drug potency and also to demonstrate the biomarker's accuracy and degree of confidence in identifying pathogens.

Military operational medicine will review project progress and support promising and successful applied research studies initiated in FY13 and FY14 aimed at enhanced nutrition and dietary supplements, Warfighter performance and sustainment in extreme environments (such as extreme heat, cold, or altitude), establishment of return to duty/medical standards criteria, blast injury models and performance standards for protections systems, diagnostics and metrics for hearing loss and protection, alcohol and substance abuse, diagnosis of deployment-related psychological health problems, diagnosis of PTSD, military family and Warfighter resilience, suicide prevention, pulmonary health in the deployed environment, and blast exposure during breaching (process used to force open closed and/or locked doors). The Military Operational Medicine Joint Program will issue program announcements with topics that will be determined by the Military Operational Medicine Joint Program Committee in the areas of physiological health, injury prevention and reduction, psychological health, and environmental health and protection.

Combat casualty care research will advance the studies started in FY14 towards transition to advanced development starting with two products in the treatment of severe hemorrhage, which are on track to move to a full Joint Integrated Product Team by FY15. Other studies moving forward include hemorrhagic (bleeding) shock and trauma, traumatic brain injury (TBI) biomarkers (indicator of biological state or the past or present existence of a particular type of organism or molecule) and screening tools,

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115HP / *Applied Biomedical Technology*	**Project (Number/Name)** 372A / *GDF Applied Biomedical Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
permanent pathology caused by mild and moderate TBI and combination drug therapies, forward surgical and en route care, and methods to enhance healing of complex injuries of the face, extremities, groin and pelvis. Researchers will transition promising basic research into applied technology research for new candidate products. A program announcement for combat casualty care topics will be issued. Radiation health effects and countermeasure research will continue in the development of small molecules, protein and cellular-based strategies for protection and mitigation of radiation-induced tissue injury due to high doses of radiation exposure. Will conduct animal studies in mice and non-human primates to address research data gaps and to characterize promising candidates shown to mitigate or prevent Acute Radiation Syndrome resulting from lethal doses of radiation. Down select to two candidates for focused studies to mature products in preparation for transition to advance development and an investigational new drug application. Clinical and rehabilitative medicine research will down-select candidate products for transition to technology development in the areas of neuromusculoskeletal injury, pain management, regenerative medicine, and/or sensory (hearing and sight) system traumatic injury. Specific focus areas include: neuromusculoskeletal (system of nerves, muscles, and bones that enable movement) injury rehabilitation strategies and devices, prosthetics (device that replaces a lost body part) and orthotics(devices used to support or supplement a weakened joint or limb), neural interfaces (invasive and non-invasive methods of using the brain and/or nerves in the arms and legs for device control), the prevention and treatment of heterotopic ossification (growth of bone in abnormal places like soft tissue), and treatment of training injuries to the musculoskeletal system; novel therapeutics and devices for pain management; regenerative medicine-based approaches for limb (extremities) and digit (fingers, thumbs and toes) salvage, craniomaxillofacial (skull, face and jaw) reconstruction, scarless wound healing, repair of skin injury resulting from burns, genitourinary tissue restoration and composite tissue allotransplantation (tissue/organ transplantation between genetically different individuals) and associated immune system modulation technologies; and restoration and rehabilitation of sensory system injury, including vision, hearing and balance injury and dysfunction. Clinical and rehabilitative medicine will continue studies started in FY13 and FY14 focused on evaluating and down-selecting novel diagnostic and treatment strategies in the areas of pain management and sensory system (vision, hearing, and balance) restoration and rehabilitation.			
Accomplishments/Planned Programs Subtotals	30.272	33.192	37.755

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115HP / *Applied Biomedical Technology*	**Project (Number/Name)** 372A / *GDF Applied Biomedical Technology*

D. Acquisition Strategy

Evaluate technical feasibility of potential solutions to military health issues. Implement models into data or knowledge and test in a laboratory environment. Milestone A packages will be developed to transition promising products to technology development funding.

E. Performance Metrics

Principal Investigators will participate in in-progress reviews, high-level DHP-sponsored review and analysis meetings, submit quarterly and annual status reports to include information on publications, intellectual property, additional funding support, and are subjected to Program Sponsor Representative progress reviews to ensure that milestones are being met and deliverables will be transitioned on schedule. 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 Technology Readiness Level (TRL) 4, and typically TRL 5, or the equivalent for knowledge products. Products nearing attainment of TRL 5 will be considered for transition.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115HP / *Applied Biomedical Technology*	Project (Number/Name) 447A / *Military HIV Research Program (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
447A: *Military HIV Research Program (Army)*	-	-	8.725	7.175	-	7.175	8.066	8.212	9.289	7.099	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

This project conducts research on the human immunodeficiency virus (HIV), which causes acquired immunodeficiency syndrome (AIDS). Work in this area includes refining improved identification methods to determine genetic diversity of the virus and evaluating and preparing overseas sites for clinical trials with global vaccine candidates. Additional activities include refining candidate vaccines for preventing HIV and undertaking preclinical studies (studies required before testing in humans) to assess vaccine for potential to protect and/or manage the disease in infected individuals.

This project is jointly managed through an Interagency Agreement between US Army Medical Research Materiel Command (USAMRMC) and the National Institute of Allergy and Infectious Diseases (NIAID) of the National Institutes of Health (NIH). This project contains no duplication of effort within the Military Departments or other government organizations. The cited work is also consistent with the Assistant Secretary of Defense, Research and Engineering Science and Technology focus areas, and supports the principal area of Military Relevant Infectious Diseases to include HIV.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Military HIV Research Program	-	8.725	7.175
Description: This project conducts research on HIV, which causes AIDS. Work in this area includes refining improved identification methods to determine genetic diversity of the virus and evaluating and preparing overseas sites for future vaccine trials. Additional activities include refining candidate vaccines for preventing HIV and undertaking preclinical studies (studies required before testing in humans) to assess vaccine for potential to protect and/or manage the disease in infected individuals.			
FY 2013 Accomplishments: No DHP funding programmed.			
FY 2014 Plans: Program transitions from the Army to DHP. Identify and characterize new populations who are at high risk of being infected with HIV for clinical evaluation of potential new vaccine candidates. Identify and develop new clinical trial sites at overseas locations to test and down-select best candidates for HIV vaccine. Initiate production of additional vaccines for various world-wide HIV subtypes and initiate pre-clinical evaluation in non-human primates.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115HP / *Applied Biomedical Technology*	**Project (Number/Name)** 447A / *Military HIV Research Program (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Will complete production of additional vaccine candidates for various world-wide subtypes. Will develop improved methods to evaluate immune responses to selected HIV vaccine candidates in non-human primates. Will analyze host genetic factors related to HIV acquisition and disease progression in acute HIV infection to inform vaccine development. Will complete down-selection of best candidates for use in Phase 1 safety studies in human volunteers.			
Accomplishments/Planned Programs Subtotals	-	8.725	7.175

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Performance of the HIV research program will be monitored and evaluated through an external peer review process, with periodic reviews by the HIV Program Steering Committee and the Military Infectious Diseases Research Program Integrating Integrated Product Team (IIPT) and in-process reviews (IPR) conducted by USAMRMC Decision Gate process to include Health Affairs representation.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0602787HP / *Medical Technology (AFRRI)*

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	3.558	1.160	1.182	1.117	-	1.117	1.222	1.242	1.331	1.153	Continuing	Continuing
241A: *Biodosimetry (USUHS)*	0.726	0.237	0.241	0.228	-	0.228	0.249	0.254	0.272	0.235	Continuing	Continuing
241B: *Internal Contamination (USUHS)*	0.376	0.124	0.125	0.119	-	0.119	0.131	0.133	0.143	0.124	Continuing	Continuing
241C: *Radiation Countermeasures (USUHS)*	2.456	0.799	0.816	0.770	-	0.770	0.842	0.855	0.916	0.794	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

For the Uniformed Services University of the Health Sciences (USUHS), Armed Forces Radiobiology Research Institute (AFRRI), 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 in current tactical, humanitarian and counterterrorism 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. Advances in assessment, prognostication, and therapy in case of actual or suspected radiation exposures will enhance triage, treatment decisions and risk assessment in operational settings.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	1.193	1.216	1.241	-	1.241
Current President's Budget	1.160	1.182	1.117	-	1.117
Total Adjustments	-0.033	-0.034	-0.124	-	-0.124
• Congressional General Reductions	-0.001	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.032	-0.034			
• Reductions related to Departmental Efficiencies - Project 241A	-	-	-0.025	-	-0.025
• Reductions related to Departmental Efficiencies - Project 241B	-	-	-0.013	-	-0.013

• Reductions related to Departmental Efficiencies - Project 241C	-	-	-0.086	-	-0.086

Change Summary Explanation

FY 2013: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0602787-Medical Technology (AFRRI) (-$0.032 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+$0.032 million).

FY 2013: General Congressional Reductions to DHP PE, 0602115-Applied Biomedical Technology (-$0.001 million).

FY 2014: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0602787-Medical Technology (AFRRI) (-$0.034 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+$0.034 million).

Reduces non-combat injury research funding in order to focus and continue the pace of progress in critical and high priority research areas for DHP RDT&E, PE 0602787-Medical Technology (AFRRI) (-$0.124 million).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602787HP / *Medical Technology (AFRRI)*	Project (Number/Name) 241A / *Biodosimetry (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
241A: *Biodosimetry (USUHS)*	0.726	0.237	0.241	0.228	-	0.228	0.249	0.254	0.272	0.235	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Biodosimetry (USUHS): For the Uniformed Services University of the Health Sciences (USUHS), the mission and research objectives for biodosimetry are to assess radiation exposure by developing and providing biological and biophysical dosimetry capabilities for acute, protracted, and prior radiation exposures; to identify proper medical treatment of injuries to military personnel to sustain warfighting capabilities; and to reduce dose detection threshold and automate assays to permit a robust and rapid capability.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Biodosimetry (USUHS)	0.237	0.241	0.228
FY 2013 Accomplishments: -Continued evaluation of a panel of radiation-responsive biomarkers in rodent animal model and extended the utility of the multiple parameter biomarker assay system for individual biodosimetry. -Evaluate a subset of combined hematological and plasma proteomic radiation-responsive biomarkers in the relevant dose (0-14 Gy) and time (6h – 7 d) range based on total body irradiation (60Co-gamma rays) model using two mouse strains with different radiation sensitivities. -Performed a preliminary statistical analysis for dose-discrimination of animal groups for different combinations of protein (Flt-3 Ligand, SAA, IL-6, G-CSF, TPO, and EPO) and hematological (lymphocytes, neutrophils, and ratio of neutrophils to lymphocytes) biomarkers. -Completed development of a mouse specific dose prediction algorithm for the ELISA-based technique and the multiplexed high-throughput platform biodosimetry device. -Demonstrated that an increase in dose estimation accuracy using 3 biomarkers compared with any individual biomarker. -Identified a subset panel of radiation biomarkers that permit radiation dose assessment in the presence or absence of wounding, which were successfully used on a high-throughput biodosimetry device evaluating blind test (radiation alone) samples. -Completed studies to evaluate the effect of thermal burns in combination with radiation on the panel of hematological and proteomic biomarkers; biomarker measurements are in progress. -Completed mouse radiation study to evaluate performance of a biomarker panel on a point-of-care biodosimetry device. Analysis of samples from dose-response calibration curve and blinded study completed. -Initiated development of a response category severity score system for acute radiation syndrome (ARS) in mice based on clinical signs and laboratory test to permit relating biomarker levels to radiation bioeffects severity.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787HP / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241A / *Biodosimetry (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
-Sustained efforts to provide necessary proof-of-concept dose-response data to transition combined proteomic and hematological concept for further development of diagnostic devices (i.e., hand-held, field deployable) and obtain necessary FDA approval. -Completed pilot study to evaluate the effects of stress and partial-body irradiation on hematology and proteomic radiation biomarkers. -Initiated pilot study to evaluate effects of dose rate on hematology and select proteomic radiation biomarkers. -Determined that low dose radiation resulted in hypomethylation of spleen DNA in irradiated mice in contrast to high dose radiation which resulted in both hypomethylation and hypermethylation of spleen DNA in irradiated mice. -Determined that overall epigenetic changes (multiple endpoints) were greater in low dose irradiated mice in contrast to high dose irradiated mice, which showed significantly more direct chromosomal damage. -Optimized protocol for preparation of interphase- cell chromosome aberrations; initiated studies to develop a novel approach to improve quality and yields of lymphocytes with condensed chromosomes for analysis of radiation-induced chromosome aberrations. -Sustained automation efforts related to establishing SOPs, sample tracking, image capture and processing, detection and high-throughput quantification of radiation-induced metaphase-spread dicentric-chromosome aberrations, and laboratory information management for rapid radiation dose assessment. -Initiated efforts to establish an in vitro intestinal epithelial cell organoid culture model to identify and validate gastrointestinal radiation biomarkers. -Submitted invention disclosure entitled on a promising new radiation biomarker to the Joint (USU & HJF) Office of Technology Transfer. -Filed joint (AFRRI/MSD) provisional patent application entitled: “Biodosimetry Panels and Methods” based in part on new biomarkers discovered in mouse studies.			
FY 2014 Plans: -Continue to evaluate protein biomarkers, hematological parameters, and clinical signs responses 1 day to 30 days after total-body irradiated and wounded mice at non-lethal, sub-lethal, and lethal radiation doses. -Complete the radiation/burn combined injury study to evaluate potential confounding effects of burn alone and when combined with radiation on radiation biomarker panel in a murine TBI (60Co gamma-rays) model. -Complete the cytokine (G-CSF) treatment study to investigate the modifying effects of cytokine treatment on radiation biomarker panel in a murine TBI (60Co gamma-rays) model. -Establish the dosimetry map for protracted (Low-Dose-Rate or LDR) 60Co irradiation for murine model; initiate comparison studies between LDR and prompt radiation on selected biomarkers in murine models. -Complete study evaluating effects of 5 different dose rates on hematology and select proteomic biomarkers. -Continue characterization of the mouse-specific response category severity scoring system for acute radiation syndrome (ARS) based on clinical signs, laboratory tests, and blood plasma proteomic biomarkers.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787HP / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241A / *Biodosimetry (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
-Investigate gender and age effects on evaluated panel of protein biomarkers in mouse model up to 7 days post irradiation. -Begin to evaluate the protein biomarkers, hematological parameters, and clinical signs ranging 1d – 7d in partial-body irradiated mice. -Continue to evaluate whether epigenetic markers can be used to discriminate low dose from high-dose radiation. -Determine if there is a chromosomal aberration difference between external radiation and internalized depleted uranium. -Evaluate whether the profile of chromosomal aberrations in human samples are able to discriminate uranium exposure from other toxic exposures. -Continue studies to establish an intestinal epithelial cell organoid model for use in biodosimetry studies. -Investigate impact of improving chromosome condensation on the ability to automate detection and counting of interphase chromosome aberrations. -Develop and integrate a spooler for automatic gene expression data inclusion from experiments and literature for indexing into the automated analysis system. -Evaluate applicability of new hardware, imaging tools, and suitability for use of mobile platforms and tablets in the automated chromosome aberration scoring system. -Contribute in the preparation of the summary report for FDA use on the diagnostic utility of combined hematological and proteomic approach in triage biodosimetry applications based on the combination of hematological and proteomic biomarkers results using murine model system. -Sustain efforts to provide necessary proof-of-concept dose-response data to transition combined proteomic and hematological concept for further development of diagnostic devices (i.e., hand-held, field deployable).			
FY 2015 Plans: -Sustain studies evaluating discovered new radiation-responsive biomarkers in animal models for early-phase and organ-specific bioindicators. -Continue to evaluate the protein biomarkers, hematological parameters, and clinical signs ranging 1 day to 30 days in total-body irradiated (and wounded) mice at non-lethal, sub-lethal, and lethal radiation doses. -Continue to evaluate the protein biomarkers, hematological parameters, and clinical signs ranging 1d – 30d in partial-body irradiated (and wounded) mice at non-lethal, sub-lethal, and lethal radiation doses. -Initiate studies to evaluate effects of even lower dose rates on hematology and select radiation biomarkers. -Complete characterization of the mouse-specific response category severity scoring system for acute radiation syndrome (ARS) based on clinical signs, laboratory tests, and proteomic biomarker profile. -Investigate dose-rate effects for low (photons) and high (mixed field neutrons and photons) linear energy transfer radiation quality for protein biomarkers in total-body irradiation animal models up to 7 days post irradiation. -Evaluate the combined utility of hematological and protein biomarkers for biodosimetry applications high (mixed field of neutrons and photons) LET total-body irradiations in total-body irradiation animal models.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787HP / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241A / *Biodosimetry (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
-Perform biodosimetry GLP studies in mouse total-body irradiation models to establish the algorithm for radiation dose assessment and dose-dependent discrimination of animal groups using combined hematological and proteomic profiles. -Sustain efforts to provide necessary proof-of-concept dose-response data to transition combined proteomic and hematological concept for further development of diagnostic devices (i.e., hand-held, field deployable) and obtain necessary FDA approval. -Determine whether epigenetic markers can discriminate between chronic low dose and repeated low dose exposures. -Determine whether epigenetic markers can discriminate between external radiation and internalized depleted uranium.			
Accomplishments/Planned Programs Subtotals	0.237	0.241	0.228

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

By FY13

-Expand the panel of radiation-responsive protein biomarkers using murine radiation models.
-Demonstrate the enhanced utility for the combination of multiple protein biomarkers and hematological parameters in murine (several mouse strains) radiation model for radiation dose and injury assessment as well as for survival prognosis.
-Complete study to identify radiation biomarkers useful as biomarkers for monitoring recovery using cytokine (G-CSF) treatment studies in the mouse TBI model.
-Establish optimal growth conditions for intestinal epithelial cell organoid culture model.
-Initiate assessment of partial-body radiation murine models over the protracted time period.
-Evaluate the radioresponse for three radiation biomarkers measured by commercial ELISA kits using the intestinal epithelial cell organoid culture model.
-Identify whether epigenetic markers can be used to discriminate low dose from high-dose radiation.
-Provide preliminary report on study investigating whether there is a chromosomal aberration difference between external radiation and internalized depleted uranium.
-Incorporate radiation bioinformatics (radioinformatics) capabilities, to include computational methods and data management tools to advance data collection, analysis, interpretation, and reporting of large data sets.

By FY14

-Identify radiation biomarkers that are dependent on exposure dose-rate and specific for various ARS subsyndromes.
-Demonstrate accurate radiological detection of radiation biomarker from biological samples into quartiles of doses 0-1 Gy, 1-3 Gy, 3-6 Gy, 6-10 Gy, and greater than 10 Gy.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787HP / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241A / *Biodosimetry (USUHS)*

-Provide preliminary report on mouse ARS category score system based on multiple biodosimetric endpoints (i.e., peripheral blood cell counts and radiation-responsive protein expression profile), taking into account animal body weight, and temperature in the mouse radiation model.
-Characterize partial-body radiation murine models over the protracted time period and compare results with prompt irradiation on selected biomarkers.
-Provide preliminary analysis of the enhanced utility of combined hematological and protein biomarkers for biodosimetry applications following photon and mixed field neutrons total-body irradiations in a total-body irradiation murine model.
-Identify subset of biomarkers useful for radiation dose assessment when confounded with thermal burns.
Complete report of select radiation biomarkers that are dependent upon dose-rate.
-Report on gender and age effects as well as the partial-body irradiation effects on the evaluated panel of protein biomarkers in mouse model.
-Submit samples from radiation-exposed intestinal epithelial cell organoid cultures for Liquid Chromatography-Tandem Mass Spectrometry analysis for novel radiation biomarker discovery.
-Measure specific methylation and histone changes using RTPCR in low dose and high dose bronchial cells.
-Measure chromosomal abberations in lymphocytes from gamma ray and depleted uranium exposed mice (spleen tissues).
-Measure intra-chromosomal aberrations using mBAND technology in human samples from individuals potentially exposed to toxic materials during deployment.
-Improve condensation of interphase chromatin into discrete chromosomes capable to be read through high-throughput image capture tools.
-Establish and incorporate Absorption Color Pigment (ACP) method for automated image extractors within CLASP.
-Provide report to validate specificity and sensitivity statistical models for the automated image system and analyses thereby testing CLASP efficiency.
-Evalute the applicability and efficiency of developed SOP's after inclusion of multi-parametric approaches within CLASP.

By FY15
-Characterize partial-body radiation murine models over the protracted time period and compare results with prompt irradiation on selected biomarkers.
-Provide necessary proof-of-concept dose-response data to transition combined proteomic and hematological concept for further development of diagnostic devices (i.e., hand-held, field deployable) and obtain the necessary FDA approval. Prepare preliminary report for FDA on combined utility of hematological and protein biomarkers for biodosimetry applications in two FDA-required animal models.
-Identify other radiation biomarkers that are dependent on exposure dose-rate.
-Validate dosimetric response of 3 biomarkers from IEC organoids exposed to 0-16 Gy gamma-ray radiation. Measure specific methylation and histone changes using RTPCR in low dose and high dose murine spleen samples.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602787HP / *Medical Technology (AFRRI)*	Project (Number/Name) 241B / *Internal Contamination (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
241B: *Internal Contamination (USUHS)*	0.376	0.124	0.125	0.119	-	0.119	0.131	0.133	0.143	0.124	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Internal Contamination (USUHS): For the Uniformed Services University of the Health Sciences (USUHS), the mission and research objective for Internal Contamination is to determine whether the short-term and long-term radiological and toxicological risks of embedded metals warrant changes in the current combat and post-combat fragment removal policies for military personnel. Additionally, the biological effects of internalization of radioactive elements from Radiological Dispersal Devices (RDDs) and depleted uranium weapons, as well as therapeutic approaches to enhance the elimination of radionuclides from the body are being investigated.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Internal Contamination (USUHS)	0.124	0.125	0.119
FY 2013 Accomplishments: -Initiated assessment of the ability of molecularly imprinted polymers to bind to potential internal contamination risks using an in vitro model system. -Determined that depleted uranium-induced leukemic cell transformation can be suppressed using a combinatorial approach targeting epigenetic alterations.			
FY 2014 Plans: -Determine the efficacy of molecularly imprinted polymers on reducing the body burden of internalized radionuclides using a rodent model system. -Validate combinatorial approach of depleted uranium-induced damage to cellular epigenetic machinery using an in vivo model.			
FY 2015 Plans: -Test novel leukemia countermeasures to determine if chemoprevention mechanism involves modification of chromatin regulation in depleted uranium-induced leukemia in vivo. -Design feasibility study to determine if non-radioactive metals can substitute as template molecules for high-specific activity radionuclides in the synthesis of molecularly imprinted polymers.			
Accomplishments/Planned Programs Subtotals	0.124	0.125	0.119

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787HP / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241B / *Internal Contamination (USUHS)*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

By FY 2013

-Complete study on depleted uranium-induced alterations in DNA packaging.
-Evaluate ability of molecularly imprinted polymers to bind potential internal contamination risks.

By FY 2014
-Complete assessment of combinatorial approach for assessing depleted uranium-induced damage.
-Conclude evaluation of molecularly imprinted polymers as decorporation agents.

By FY 2015
-Initiate study to assess feasibility of using non-radioactive templates in the synthesis of molecularly imprinted polymers to radioactive metals.
-Complete in vivo study on the mechanism of depleted uranium-induced leukemia.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602787HP / *Medical Technology (AFRRI)*	Project (Number/Name) 241C / *Radiation Countermeasures (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
241C: *Radiation Countermeasures (USUHS)*	2.456	0.799	0.816	0.770	-	0.770	0.842	0.855	0.916	0.794	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Radiation Countermeasures (USUHS): For the Uniformed Services University of the Health Sciences (USUHS), this program supports developmental, mission directed research to investigate new concepts and approaches that will lead to advancements in biomedical strategies for preventing, treating, assessing and predicting the health effects of human exposure to ionizing radiation as well as radiation combined with injuries(burns, wounds, hemorrhage). Research ranges from exploration of biological processes likely to form the basis of technological solutions, to initial feasibility studies of promising solutions. Program objectives focus on mitigating the health consequences from exposures to ionizing radiation, in the context of probable threats to U.S. forces in current tactical, humanitarian and counterterrorism 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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Radiation Countermeasures (USUHS)	0.799	0.816	0.770
FY 2013 Accomplishments: - Demonstrated that gamma-tocotrienol (GT3) preferentially up-regulates expression of anti-apoptotic genes to promote intestinal cell survival. - Gamma-tocotrienol mobilizes hematopoietic, endothelial and stromal progenitor cells into peripheral blood. - Identified a panel of biologically important metabolomics biomarkers for gamma radiation injury in gastrointestinal system. - Investigated micro-RNA changes in mouse spleen and kidney after radiation and its modulation by gamma-tocotrienol - Demonstrated activation of Wnt signaling pathway after radiation in human hematopoietic progenitor CD34+ cells and in hematopoietic spleen tissue. - Initiated a pilot study with nano-GT3 to develop an oral formulation in mouse model. - Lipid peroxidation after ionizing irradiation led to apoptosis and autophagy. A book chapter was published (Kiang et al., In: Lipid Peroxidation, pp. 261-278, 2012). - Demonstrated significant radioprotective effects of 17-DMAG on bone marrow, mediated by increasing hematopoietic cells and mesenchymal stem cells. A manuscript was contingently accepted by Cell Biosci for publication. - Demonstrated radioprotective effects of 17-DMAG on ileum and lung, mediated by reducing epithelial apoptosis and crypt autophagy. A manuscript is in preparation. - Found that mesenchymal stromal cells exhibited adaptive redox response to stimulation with lipopolysaccharide inflammagen by remodeling tissue barriers. A paper was published (Gorbunov and Kiang, Oxidative Med Cell Longevity 2013:186795, 2013).			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787HP / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241C / *Radiation Countermeasures (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
- Found that mesenchymal stromal cells upregulated autophagy defense mechanisms in response to ionizing irradiation combined with bacterial challenge. A book chapter was published (Gorbunov et al., In: Protein interaction, pp. 23-44, 2012.). - Found that pegylated G-CSF displayed significant therapeutic efficacy after radiation injury by increasing survival, mitigating blood cell depletion and preventing splenomegaly. - Found that ciprofloxacin modulated cytokine/chemokine profile in serum, improved bone marrow repopulation, and limited apoptosis and autophagy in ileum after whole-body ionizing irradiation combined with skin-wound trauma. A paper was published (Fukumoto et al., PLoS One 8:e58389, 2013). - Found that ciprofloxacin displayed significant therapeutic efficacy after radiation combined injury by increasing erythrocyte generation and cellular ATP production. A manuscript is in preparation. - Established an animal model of radiation combined with hemorrhage, which showed that hemorrhage enhanced radiation damage to the bone formation and maintenance. - Hemorrhage increased radiation-induced mortality, bone marrow cell loss, and peripheral blood cell depletion. - Hemorrhage increased erythropoietin concentrations in blood and kidney, which was inversely correlated with bone marrow cell loss. - Hemorrhage enhanced the radiation-induced increases in IL-6, KC and G-CSF concentrations and decreases in IL-17a concentration in serum, suggesting the presence of inflammation. - Hemorrhage transiently enhanced radiation-induced C3 production but not C-reactive protein, suggesting the presence of a transient inflammation. - Serum procalcitonin concentration, measured by ELISA, distinguished induced exogenous bacterial infection within 24 h in sublethally irradiated mice and endogenous sepsis in morbid lethally irradiated mice as confirmed by bacterial culture. This procedure can be used to determine when to start early antimicrobial therapy and reduce mortality from sepsis. - A manuscript is in preparation to report that combination therapy with a nonspecific immunomodulator, synthetic trehalose dicorynomycolate and monophosphoryl lipid A (STDCM-MPL), and the antimicrobial agents, levofloxacin and amoxicillin, eliminates polymicrobial sepsis and extends survival in combined injured mice as well as in mice only lethally irradiated. - A nonspecific immunomodulator, synthetic trehalose dicorynomycolate and monophosphoryl lipid A (STDCM-MPL), increased serum concentrations of several cytokines and chemokines during the seven days after lethal irradiation or combined injury in mice. Mouse serum samples were analyzed and evaluated statistically for responses of interleukin-1α (IL-1α), IL-1β, IL-6, IL-10, granulocyte colony-stimulating factor (G-CSF), granulocyte macrophage-colony stimulating factor (GM-CSF), interferon γ (IFNγ), keratinocyte-derived chemokine (KC), monocyte chemotactic protein-1 (MCP-1), macrophage inflammatory protein-1 (MIP-1-alpha and MIP-1-beta), and tumor necrosis factor-α (TNF-α). A manuscript is in preparation to report the findings. - Determined that 17-DMAG exacerbates radiation-induced reductions in trabecular bone microarchitecture, strength, and cellular activity. (Manuscript in preparation) - Determined that radiation exposure, as low as 1 Gy, negatively alters biomarkers of bone metabolism and results in significant reductions in trabecular bone			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787HP / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241C / *Radiation Countermeasures (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
- 8 Gy dose of ionizing radiation further exacerbates negative effects of radiation injury on bone - Determined that non-lethal radiation combined with skin wound trauma enhances the effectiveness of ionizing radiation to induce skeletal tissue damage and increase fracture risk (reduce bone strength) - Combined injury (8 Gy) induces bone loss that occurs as early as 7 days post-exposure and continues for at least 120 days (Manuscript in preparation) - Cancellous, not cortical, bone is more susceptible to combined injury-associated reductions in bone - Although a dose of radiation as low as 1 Gy is severely detrimental to bone, there appears to be a dose-dependent effect of radiation injury and combined injury on bone (8 Gy > 1 Gy) - Mice exposed to combined injury (8 Gy) experienced inhibited body mass accrual and did not recover this loss until 21 days after injury. - Determined that multiple administrations of recombinant mouse IL-10 (rmIL-10) attenuated wounding- and combined injury-associated reductions in red and white blood cells, neutrophils, lymphocytes, and leukocytes (Day 30). - rmIL-10 mitigated RI-induced reductions in lymphocytes and nearly doubled neutrophil levels in sham mice (Days 7 and 30). - rmIL-10 prevented reductions in spleen and liver mass after RI (Day 30). - Determined that rmIL-10 was unable to prevent early reductions in body mass after radiation and combined injury - Demonstrated accelerated wound healing with rmIL-10. Combined injury mice treated with rmIL-10 significantly reduced time to wound closure (16.4 ± 0.6 days) compared to vehicle treated CI mice (19.6 ± 1.8 days). - Determined that in the bone marrow microenvironment, reactive oxygen species (ROS) are critical to development of radiation leukemia, providing evidence of a new target for radiation-leukemia prevention. - Determined that epigenetic mechanisms and gene silencing controls are dysregulated during radiation-induced leukemia and may be a target for new therapies. - Determined that chromosomal instability (genetic change) is associated with radiation-induced leukemia and that non-targeted radiation damage is involved. - Determined that Phenylbutyrate treatment can prevent neoplastic transformation and genomic instability of bronchial airway cells at regardless of the type/quality of radiation. - Investigated feasibility of studies in irradiated minipigs evaluating changes in gene and protein expression signatures. Tocopherol succinate (TS)-mobilized progenitors significantly protected mice when administered as late as 48 h post-irradiation with 11.5 Gy and also mitigated radiation injury in gut. - TS mobilized progenitors inhibited apoptosis, and stimulated mitosis (cell proliferation), and inhibited gut bacterial translocation in high dose-irradiated mice in gut tissue. - TS mobilized progenitors also inhibited translocation of gut bacteria to various organs in mice irradiated with high dose of radiation causing GI injury. -Studied transcriptomes in mice tissue administered with TS and G-CSF antibody to understand the mechanism of action of TS and G-CSF.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787HP / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241C / *Radiation Countermeasures (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
- Study effect of TS mobilized progenitors in combined injury model (radiation exposure and wounding). - By analyzing transcriptomic signatures after TS stimulation and modulation of colony-stimulating factor production using functional genomics, determined the mechanism and necessary molecular components by which TS mediates colony-stimulating factor production and provide radioprotection. - Screened 10 new agents for radiation countermeasure efficacy. - Determined the efficacy of delta-tocotrienol in reducing radiation-induced clastogenicity. - Demonstrated that DT3 as an anti-apoptotic agent inhibited pro-inflammatory cytokine production and PTK6 expression in mouse intestinal tissue after exposure to γ-radiation and protected mice from lethal-dose radiation-induced acute gastrointestinal syndrome. - Demonstrated that REDDI1 (regulated in development and DNA damage responses), a novel survival factor, protects osteoblast cells from gamma radiation-induced premature senescence. - Demonstrated that human hematopoietic stem and progenitor cells and their niche cells have different miRNA expression patterns after irradiation and miR-30c plays a key role in radiation-induced cell damage which might be through regulation of REDD1 expression.			
FY 2014 Plans: - Evaluate the radioprotective and mitigative/therapeutic effects of nano-GT3 in mouse model - Determine acute and late effects of radiation-induced bone damage and prevention by gamma-tocotrienol after whole body radiation - Analyze global protein profiling after radiation in mouse spleen and kidney with varying doses and times after radiation. - Evaluate radiation-induced micro-RNA changes in mouse jejunum after gamma-tocotrienol treatment. - Evaluate the efficacy of a combined pharmaceutical regimen against radiation combined injury (irradiation followed immediately by skin wound trauma). - Determine effectiveness of combined therapy of G-CSF and ALXN4100TPO, a thrombopoietin receptor agonist, to prevent, mitigate, or inhibit the long-term deleterious responses to radiation combined injury. - Evaluate the micro-RNA profile in mouse serum after radiation alone and combination with wound trauma. - Evaluate the efficacy of IL-10 as a countermeasure to radiation and combined injury-associated effects on bone microarchitecture, strength, tissue-level cellular mechanisms, biomarkers of bone metabolism and immune effects. - Explore the role of the immune system in bone's response to radiation and combined injury (i.e. osteoimmunology). - Investigate the molecular mechanisms involved in radiation, wounding, hemorrhage, and/or combined injury. - Explore the role that sclerostin, an inhibitor of osteoblastogenesis, has on radiation and/or combined injury-associated reductions in bone mass and its effects on Wnt/β-catenin signaling. - Determine whether protection of bone marrow environment epigenetic changes following radiation can prevent radiation leukemia.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787HP / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241C / *Radiation Countermeasures (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
- Continue study of the mitigation of radiation injury using apoptotic pathway markers in mice receiving TS-mobilized progenitors. - Perform genome-wide transcriptomic and proteomic profiling to elucidate coordinate pathway activation markers associated with tocopherol-mediated bioactivity. - Perform RNA-sequence profiling of small RNA, as well as mRNA transcriptomes, antibody microarray and 2D gel electrophoresis profiling of low and high abundance proteomes with samples obtained after TS treatment. - Small molecule inhibitors for candidate signaling pathways associated with TS activity will be utilized to determine their requirements for CSF family member production, most notably, G-CSF production. - Screen several human primary organ-specific cell types (epithelial, fibroblast, endothelial, etc.) for CSF transcript up-regulation in response to alpha-tocopherol. - Determine radioprotection (drug administered before irradiation) with 10 new compounds. - Elucidate radioprotection by BB-001 and ODSH. - Determine the efficacy of filgrastim (administered after irradiation) and ALXN4100TPO (administered prior to radiation) on radiation lethality and how the combination influences hematopoietic end points as measured by circulating blood elements. - Test efficacy of ALXN4100TPO in different mouse strains. - Evaluate microRNAs and inflammatory factors as radiation biomarkers. - Evaluate the radioprotective and mitigative/therapeutic effects of tilorone hydrochloride in in vivo animal model. - Study the role of inflammatory pathways in ionizing radiation-induced bone marrow failure. - Establish 3 dimensional coculture in vitro model to evaluate the effects of bone marrow endothelial cells (BMEC) on hematopoietic stem and progenitor cells (HSPC) in a 3D environment - Initiate ex vivo culture of murine BMEC for in vivo studies - Test hypothesis that EC improve animal survival after gamma irradiation - Test functional roles of EC in hematopoietic support after irradiation - Test hypothesis that Ang/Tie2 pathway is involved in animal survival after irradiation - Test functional roles of Ang/Tie2 pathway in hematopoietic support after irradiation - Initiate analysis of gene array data from irradiated human marrow endothelial cells and hematopoietic progenitor cells			
FY 2015 Plans: - Evaluate RANKL-mediated signaling pathways in skeletal tissues after radiation and their modulation by gamma-tocotrienol. - Examine radiation-induced neuronal damage and mitigation by gamma-tocotrienol using cell culture and mouse brain. - Evaluate the role of nrf2 pathway after radiation in microglial cells and its modulation by gamma-tocotrienol - Evaluate intracellular signaling pathways in mechanisms of efficacy of GT3 in different mouse tissues after radiation. - Determine the role of hedgehog signaling in hematopoietic recovery following sub-lethal dose of radiation (in vitro and in vivo study). - Determine the role of HIF-1a and HIF-2a in the regulation of erythropoiesis after radiation, and effect of gamma-tocotrienol.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787HP / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241C / *Radiation Countermeasures (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
- Continue to evaluate intracellular signaling pathways and cytokine profiles in mechanisms of efficacy of G-CSF and ALXN4100TPO in combined injured mice. - Continue to evaluate micro-RNA profiles in mouse serum after both radiation alone and combination with wound trauma with treatment with countermeasures. - Determine the potential efficacy of a sclerostin antibody, which inhibits radiation-induced reductions in bone formation. - Continue to explore the role of the immune system in bone's response to radiation and combined injury. - Determine whether Phenylbutyrate-induced suppression of neoplastic transformation of bronchial tissue is radiation dose-dependent (low versus high) and whether epigenetic or genetic processes are predominant. - Study transcriptomics in various subsets of TS-mobilized progenitors.			
Accomplishments/Planned Programs Subtotals	0.799	0.816	0.770

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

By FY 2014

- Complete evaluation of the therapeutic effects of G-CSF and ALXN4100TPO on survival after radiation combined injury.
- Complete evaluation of the micro-RNA profile in mouse serum after radiation alone and combination with wound trauma.
- Complete evaluation of IL-10 as a countermeasure to radiation combined injury-induced bone loss and effects on immune system.
- Complete evaluation of molecular mechanisms involved in radiation, wounding, hemorrhage, and/or combined injury.
- Complete determination of the role that sclerostin has on radiation and/or combined injury-associated reductions in bone mass and its effects on Wnt/β-catenin signaling in bone.
- Measure methylation and histone changes in radiation-leukemogenic mice
- Unfold part of underlying mechanisms of therapeutic effects of G-CSF, TS-mobilized progenitors, and ALXN4100TPO after radiation combined injury.
- Complete studies on CDX-301 mechanism(s) of action.
- Complete DRF studies with filgrastim using our optimized schedule.
- Repeat strain survival studies to determine LD50 in four mouse strains.
- Establish supportive care in Rhesus macaque model to include antibiotic treatment, blood transfusions and thereby establish LD-50 in primates.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787HP / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241C / *Radiation Countermeasures (USUHS)*

By FY 2015
- Elucidate the fundamental underlying mechanisms of therapeutic effects of G-CSF and ALXN4100TPO after radiation combined injury.
- Begin determining the potential efficacy of a sclerostin antibody to inhibit combined injury-induced bone loss.
- Evaluate effect of chronic or repeated low dose radiation on neoplastic transformation of bronchial tissue.
- Initiate investigations into mechanisms of mitigation/protection by BB-001. Determine optimum dose and time schedules, followed by DRF studies.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0603002HP *I Medical Advanced Technology (AFRRI)*

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	0.739	0.250	0.295	0.279	-	0.279	0.305	0.310	0.332	0.287	Continuing	Continuing
242A: *Biodosimetry (USUHS)*	0.444	0.150	0.177	0.167	-	0.167	0.183	0.186	0.199	0.172	Continuing	Continuing
242B: *Radiation Countermeasures (USUHS)*	0.295	0.100	0.118	0.112	-	0.112	0.122	0.124	0.133	0.115	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

For the Uniformed Services University of the Health Sciences/ Armed Forces Radiobiology Research Institute (USUHS/AFRRI), this program supports 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 0602787HP, 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(alone or in combination with other injuries) that represent the highest probable threat to US forces in current tactical, humanitarian and counterterrorism mission environments. Findings from basic and developmental research are integrated into 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 medical assessment; and (3) experimental data needed to build accurate models for predicting casualties from complex injuries involving radiation and other battlefield insults. The AFRRI, because of its multidisciplinary staff and exceptional laboratory and radiation facilities, is uniquely positioned to execute the program as prescribed by its mission.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	0.298	0.304	0.310	-	0.310
Current President's Budget	0.250	0.295	0.279	-	0.279
Total Adjustments	-0.048	-0.009	-0.031	-	-0.031
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-0.168	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.124	-			
• SBIR/STTR Transfer	-0.004	-0.009			
• Reductions related to Departmental Efficiencies - Project 242A	-	-	-0.019	-	-0.019
• Reductions related to Departmental Efficiencies - Project 242B	-	-	-0.012	-	-0.012

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0603002HP *I Medical Advanced Technology (AFRRI)*

Change Summary Explanation

FY 2013: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0603002-Advanced Technology (AFRRI) (-$0.004 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+$0.004 million).

FY 2013: General Congressional Reductions to DHP RDT&E, PE 0603002-Advanced Technology (AFRRI) (-$0.000 million).

FY 2013: Congressional Directed Reductions (Sequestration) to DHP RDT&E, PE 0603002-Advanced Technology (AFRRI) (-$0.168 million).

FY 2013: Below Threshold Reprogramming (BTR) from DHP RDT&E PE, 0604110-Medical Products Support and Advanced Concept Development (-$0.124 million) to DHP RDT&E PE, 0603002-Advanced Technology (AFRRI) (+$0.124 million).

FY 2014: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0603002-Advanced Technology (AFRRI) (-$0.009 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+$0.009 million).

FY 2015: Reduces non-combat injury research funding in order to focus and continue the pace of progress in critical and high priority research areas for DHP RDT&E, PE 0603002-Advanced Technology (AFRRI) (-$0.031 million).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603002HP / *Medical Advanced Technology (AFRRI)*	Project (Number/Name) 242A / *Biodosimetry (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
242A: *Biodosimetry (USUHS)*	0.444	0.150	0.177	0.167	-	0.167	0.183	0.186	0.199	0.172	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Biodosimetry (USUHS): For the Uniformed Services University of the Health Sciences (USUHS), this program supports applied research for advanced development of biomedical and biophysical strategies to assess health consequences from exposure to ionizing radiation. It capitalizes on findings under PE 0602787HP, Medical Technology, and from industry and academia to advance novel biological markers and delivery platforms for rapid, field-based individual dose assessment and experimental data needed to build accurate models for predicting casualties from complex injuries involving radiation and other battlefield insults.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Biodosimetry (USUHS)	0.150	0.177	0.167

FY 2013 Accomplishments:

-Continued evaluation of radiation-responsive biomarkers panel using higher order animals and human models.
-Initiated studies to evaluate the validity of minipigs as biodosimetric model for dose response assessment using blood count and clinical chemistry parameters.
-Characterized dose response and repair kinetics of γ-HA2X cytogenetic biomarker in the minipig radiation model.
-Identified several promising new radiation biomarkers using non-human primate radiation model. Confirmed that a subset of the biomarkers responds to radiation in the relevant dose (0-8.5 Gy) and time (6 h – 7 d) range following total-body irradiation (60Co – gamma rays).
-Completed establishment of an ARS severity scoring system using NHP radiation model.
-Added plasma biomarkers to NHP ARS severity scoring system to provide enhanced prognostic diagnostics of radiation injury.
-Developed a dose prediction algorithm based on the combination of hematology and proteomic biomarkers in a NHP radiation model.
-Modeled late phase (>7 days) radiation injury parameters based from predictive CBC and blood chemistry parameters; multivariate based algorithm developed for injury prediction based on results obtained 7 to 25 days after irradiation.
-Identified urinary biomarkers that provide promise for radiation dose assessment.
-Modeled archived NHP urine metabolite data for determining predictive biomarkers for estimating radiation doses between 1-8.5 Gy.
-Created a cytogenetic image database to facilitate development of machine learning methods to automate analysis of chromosome aberrations.
-Established a bioinformatics platform for identifying established radiation gene signatures by data-base searching.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603002HP / *Medical Advanced Technology (AFRRI)*	**Project (Number/Name)** 242A / *Biodosimetry (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
-Developed a Monte Carlo based radiation casualty simulation to evaluate sample processing bottlenecks within a high-throughput automated scoring system. -Sustained efforts to provide necessary proof-of-concept dose-response data to transition combined proteomic and hematological concept for further development of diagnostic devices (i.e., hand-held, field deployable) in triage biodosimetry applications and obtain necessary FDA approval. -Filed joint (AFRRI/MSD) provisional patent application entitled: “Biodosimetry Panels and Methods” based in part on new biomarkers discovered in nonhuman primate and human studies. ***FY 2014 Plans:*** -Continue the evaluation and validation of discovered new radiation-responsive biomarkers in higher order animals and human models for biodosimetric diagnostic applications. -Determine the feasibility of developing an early phase (<7 days) radiation dose assessment model and algorithm using predictive biomarkers from AFRRI archived mini-pig hematology and serum chemistry data for estimating a 1.6-2 Gy radiation dose. -Establish the baseline levels of body weights, body widths, body temperatures, hematology, blood chemistry, proteomic biomarker parameters, and ARS severity scores in the nonhuman primate total body irradiation model prior to irradiation. -Perform a pilot study using samples from the NHP total-body irradiation model, to permit testing of the measurement of novel organ specific biomarkers in isolated peripheral blood using commercially available antibodies. -Begin the full dose-response algorithm dose assessment study in NHP total-body irradiation model. -Begin the evaluation of the effects of treatment (G-CSF, IV fluids, antibiotics, blood transfusion, etc.) on the candidate biomarkers in NHP total-body irradiation model. -Determine the feasibility of developing an early phase (<7 days) radiation dose assessment model and algorithm for estimating radiation doses between 1-8.5 Gy using archived NHP urine metabolite data. -Develop and validate a radiation dose algorithm using NHP hematology and plasma proteomic biomarker results using independent (“blinded”) samples. -Establish LIMS (Laboratory Information Management Systems) modules and controls for remote access. Test, validate and release the developed BETA version of the automated chromosome aberration scoring system to end user using a virtual protocol network. -Develop specificity and sensitivity models as well as multi-parametric approaches for internal automated self-validation of data before end-user reporting for the automated chromosome aberration analysis system. -Develop and establish ultra-high-throughput miRNA based triage models. -Contribute in the preparation of the summary report for FDA use on the diagnostic utility of combined hematological and proteomic approach for triage biodosimetry applications based on the combination of hematological and proteomic biomarkers results using minipigs and nonhuman primate model system.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603002HP / *Medical Advanced Technology (AFRRI)*	**Project (Number/Name)** 242A / *Biodosimetry (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
-Continue to provide necessary proof-of-concept dose-response data to transition combined proteomic and hematological concept for further development of diagnostic devices (i.e., hand-held, field deployable) and obtain necessary FDA approval. -Begin to develop the protocol on evaluated and newly developed protein biomarkers for use in human radiation accident cases. ***FY 2015 Plans:*** -Contribute to the further evaluation of discovered new radiation-responsive biomarkers in higher order animal and human models for diagnostic biodosimetry applications. -Complete NHP-specific ARS category score system based on multiple biodosimetric endpoints (i.e., clinical signs, peripheral blood cell counts, and radiation-responsive protein expression profile). -Perform biodosimetry GLP studies in NHP total-body irradiation models to establish the algorithm for radiation dose assessment and dose-dependent discrimination of animal groups using combined hematological and proteomic profiles. -Sustain efforts to provide necessary proof-of-concept dose-response data to transition combined proteomic and hematological concept for further development of diagnostic devices (i.e., hand-held, field deployable) and obtain necessary FDA approval. -Complete report for FDA on combined utility of hematological and protein biomarkers for biodosimetry applications in two FDA required animal models. -Continue preparation of report for FDA on combined utility of hematological and protein biomarkers for biodosimetry applications using GLP studies results. -Begin to develop the protocol for evaluating newly discovered protein biomarkers for use in human radiation accident cases.			
Accomplishments/Planned Programs Subtotals	0.150	0.177	0.167

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

By FY 2013

-Expand the panel of radiation-responsive protein biomarkers using higher-order animal and human models.

-Continue the further evaluation of discovered new radiation-responsive biomarkers for ARS sub-syndromes in animal models.

-Demonstrate accurate radiological detection from biological samples into quartiles of doses 0-1 Gy, 1-3 Gy, 3-6 Gy, 6-10 Gy, and greater than 10 Gy.

-Create the ARS category score system based on multiple biodosimetric endpoints (i.e., peripheral blood cell counts and radiation-responsive protein expression profile).

-Evaluate the subset of radiation biomarkers affected by full supportive care and cytokine (G-CSF) treatment in pilot study using NHP TBI model.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603002HP / *Medical Advanced Technology (AFRRI)*	**Project (Number/Name)** 242A / *Biodosimetry (USUHS)*

-Provide a preliminary report on the development of an algorithm for estimating radiation dose in minipigs and NHPs using either early and/or late phase' time-point data.
-Initiated efforts to characterize levels of radiation biomarkers using a large cohort of healthy human adults to establish a multivariate biomarker baseline.

By FY 2014
-Provide necessary proof-of-concept dose-response data to transition combined proteomic and hematological concept for further development of diagnostic devices (i.e., hand-held, field deployable) and obtain necessary FDA approval.
-Investigate the influence of potential confounding effects (i.e., gender, age, radiation quality) on the proteomic biomarker based algorithm for dose assessment.
-Evaluate new radiation-responsive biomarkers for ARS sub-syndromes in non-human primate total-body irradiation model. Demonstrate accurate radiological detection from biological samples into quartiles of doses 0-1 Gy, 1-3 Gy, 3-6 Gy, and 6-9 Gy.
-Evaluate the two algorithms by comparing their differences, such as in the biomarkers selected, the derived beta (weighting) coefficients, amount of co-linearity between the independent variables, data collection time-points and the dose estimation efficiency percentage as indicated by multiple-R values.
-Begin to develop the protocol on evaluated and newly developed protein biomarkers for use in human radiation accident cases.
-Establish and evaluate hardware and automated machinery architecture within CLASP for its implementation, throughput and efficiency after inclusion of new multi-parametric approaches with end user reporting.
-Integration of new imaging and analyses methods within CLASP to develop Boolean operations based on machine learning for automated close to human prediction, using Artificial Intelligence.
-Establish and develop filter-assays for quick distinction of Very Low Priority (VLP) cohorts to develop an effective triage dose model for miRNA based gene expression profiles.
-Integrate and cross-link the existing CLASP platform to incorporate pathway and genomic data from established search engines to provide a better user annotation.

By FY 2015
-Exercise protocols for evaluation of newly developed proteomic biomarkers for use in radiation accident cases.
-Provide necessary proof-of-concept dose-response data to transition combined proteomic and hematological concept for further development of diagnostic devices (i.e., hand-held, field deployable) and obtain the necessary FDA approval. Prepare preliminary report for FDA on combined utility of hematological and protein biomarkers for biodosimetry applications in two FDA-required animal models.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603002HP / *Medical Advanced Technology (AFRRI)*	Project (Number/Name) 242B / *Radiation Countermeasures (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
242B: *Radiation Countermeasures (USUHS)*	0.295	0.100	0.118	0.112	-	0.112	0.122	0.124	0.133	0.115	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Radiation Countermeasures (USUHS): For the Uniformed Services University of the Health Sciences (USUHS), this program supports 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 0602787HP, 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 alone or in combination with other injuries, in the context of probable threats to US forces in current tactical, humanitarian and counterterrorism mission environments. Findings from basic and developmental research are integrated into highly focused advanced technology development studies yielding protective and therapeutic strategies.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Radiation Countermeasures (USUHS)	0.100	0.118	0.112

FY 2013 Accomplishments:

-Initiated studies to evaluate the effects of genistein administered before irradiation in combination with G-CSF administered postirradiation.
-Initiated study to determine role of estrogen receptor on genistein-induced radioprotection.
-Studied radioprotective efficacy of GT3 in NHP – used three different radiation doses and two different drug doses.
-Investigated effect of GT3 on translocation of gut bacteria to various organs of NHPs receiving high doses of gamma-radiation.
-Evaluated effect of TS-mobilized progenitors on radiation-induced apoptosis.
-Investigated efficacy of TS-mobilized progenitors on cell proliferation and bacterial translocation in irradiated mice.
-Investigated efficacy of TS-mobilized progenitors in combined injury model (radiation exposure and wound).
-Demonstrated phenylbutyrate was ineffective as a radiation countermeasure when administered sc, 4 or 24 h after pure gamma-rays (9.2 Gy) or mixed neutron/gamma fields (5.71 Gy).

FY 2014 Plans:

-Complete study examining effects of genistein in combination with G-CSF as a radiation countermeasure regimen.
-Complete study evaluating effects of the role of the estrogen receptor on genistein-induced radioprotection
-Complete PK/PD analysis of NHP study samples for GT3.
-Complete pilot NHP study for GT3 and analyze various biomarkers.
-Investigate the radiomitigation potential of TS-mobilized progenitors in large animals (minipig or NHP).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603002HP / *Medical Advanced Technology (AFRRI)*	**Project (Number/Name)** 242B / *Radiation Countermeasures (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
-Compare efficacy of CDX-301 as a radiation countermeasure when administered after pure gamma-rays or mixed neutron/ gamma fields. ***FY 2015 Plans:*** -Evaluate radioprotective effects of genistein as a function of radiation dose rate. -Study GT3 biomarkers for efficacy in nonhuman primates.			
Accomplishments/Planned Programs Subtotals	0.100	0.118	0.112

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

By FY 2014
-Complete study evaluating radioprotective effects when genistein is combined with a leucocyte growth factor.
-Complete study evaluating effects of the role of the estrogen receptor on genistein-induced radioprotection.
-Study the radioprotective efficacy of GT3 in at least six nonhuman primates.
-Survival, hematopoietic measures, and cytokine measurements in mice administered CDX-301 after pure gamma rays or mixed neutron/gamma fields.

By FY 2015
-Evaluate radioprotective effect of genistein as a function of radiation dose rate.
-Study efficacy biomarkers for GT3 efficacy in NHP.
-Study efficacy of TS-mobilized progenitors in large animals (mini pig or NHP).

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program											Date: March 2014	
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0603115HP *I Medical Technology Development*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	713.880	656.441	1,085.108	226.131	-	226.131	231.951	251.289	268.785	264.226	Continuing	Continuing
300A: *CSI - Congressional Special Interests*	540.100	521.585	802.400	-	-	-	-	-	-	-	-	-
238C: *Enroute Care Research & Development (Budgeted) (AF)*	3.261	0.424	4.666	3.394	-	3.394	3.334	4.090	4.479	4.564	Continuing	Continuing
243A: *Medical Development (Lab Support) (Navy)*	33.555	28.413	36.386	34.378	-	34.378	37.580	38.211	40.942	35.462	Continuing	Continuing
284B: *USAF Human Physiology, Systems Integration, Evaluation & Optimization Research (Budgeted) (AF)*	2.421	0.225	3.694	2.280	-	2.280	3.705	4.697	5.327	6.091	Continuing	Continuing
285A: *Operational Medicine Research & Development (Budgeted) (AF)*	8.005	0.141	4.907	1.983	-	1.983	1.857	2.294	2.699	3.399	Continuing	Continuing
307B: *Force Health Protection, Advanced Diagnostics/ Therapeutics Research & Development (Budgeted) (AF)*	14.335	0.393	15.353	12.558	-	12.558	14.173	17.653	19.333	19.700	Continuing	Continuing
308B: *Expeditionary Medicine Research & Development (Budgeted) (AF)*	2.796	0.051	4.769	4.699	-	4.699	4.185	4.159	4.554	4.641	Continuing	Continuing
309A: *Regenerative Medicine (USUHS)*	6.877	-	7.294	9.190	-	9.190	9.489	9.649	9.823	7.945	Continuing	Continuing
373A: *GDF - Medical Technology Development*	48.595	79.544	145.961	113.048	-	113.048	116.775	134.176	149.232	162.193	Continuing	Continuing
378A: *CoE-Breast Cancer Center of Excellence (Army)*	9.722	3.355	10.338	8.664	-	8.664	7.299	5.709	4.068	1.777	Continuing	Continuing
379A: *CoE-Gynecological Cancer Center of Excellence (Army)*	8.494	2.931	9.033	7.570	-	7.570	6.377	4.989	3.555	1.552	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program										Date: March 2014		
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*							
381A: *CoE-Integrative Cardiac Health Care Center of Excellence (Army)*	3.584	1.238	3.811	3.594	-	3.594	3.520	3.368	3.214	1.747	Continuing	Continuing
382A: *CoE-Pain Center of Excellence (Army)*	2.715	0.937	2.888	-	-	-	-	-	-	-	Continuing	Continuing
382B: *CoE-Pain Center of Excellence (USUHS)*	0.000	-	-	2.722	-	2.722	2.823	2.871	3.247	2.810	Continuing	Continuing
383A: *CoE-Prostate Cancer Center of Excellence (USUHS)*	7.164	6.352	8.061	6.907	-	6.907	6.260	5.456	4.628	1.887	Continuing	Continuing
398A: *CoE-Neuroscience Center of Excellence (USUHS)*	1.822	-	1.926	-	-	-	-	-	-	-	-	-
429A: *Hard Body Armor Testing (Army)*	0.813	0.543	-	-	-	-	-	-	-	-	-	-
431A: *Underbody Blast Testing (Army)*	14.544	6.385	11.289	4.818	-	4.818	2.679	1.869	-	-	-	-
448A: *Military HIV Research Program (Army)*	0.000	-	6.912	5.773	-	5.773	6.589	6.701	7.579	5.792	Continuing	Continuing
830A: *Deployed Warfighter Protection (Army)*	5.077	3.924	5.420	4.553	-	4.553	5.306	5.397	6.105	4.666	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force - Medical Technology Development provides funds for promising candidate solutions that are selected for initial safety and effectiveness testing in animal studies and/or small scale human clinical trials regulated by the US Food and Drug Administration prior to licensing for human use. Research in this Program Element (PE) is designed to address the following: Secretary of Defense areas of interest regarding Wounded Warriors, capabilities identified through the Joint Capabilities Integration and Development System, and the strategy and initiatives described in the Quadrennial Defense Review. 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 (DHP) Research, Development, Test, and Evaluation (RDT&E) funding. Research supported by this PE includes polytrauma (multiple traumatic injuries) and blast injury, diagnosis and treatment of brain injury, environmental health and performance, physiological (human mechanical, physical and biochemical functions) and psychological health, injury prevention and reduction, medical simulation and training, health informatics, pain management, regenerative medicine, and rehabilitation of neuro-musculoskeletal injuries and sensory systems. As research efforts mature, the most promising will transition to advanced concept development funding, Program Element 0604110. For knowledge products, successful findings will transition into clinical practice guidelines.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*

For the Army Medical Command, the Hard Body Armor project focuses on scientific study and evaluation of injuries related to blunt trauma events on cadavers. Preventing blunt trauma injury is one of the critical components of body armor design.

For the Army Medical Command and the Army Research, Development, and Engineering Command, the Underbody Blast (UBB) Testing medical research project provides funds to establish a scientific and statistical basis for evaluating skeletal injuries to vehicle occupants during ground vehicle UBB events. Areas of interest to the Secretary of Defense are medical research that provides an understanding of the human response and tolerance limits and injury mechanisms needed to accurately predict skeletal injuries to ground combat vehicle occupants caused by UBB events. This enhanced understanding will support the establishment of an improved capability to conduct Title 10 Live Fire Test and Evaluation and to make acquisition decisions.

For the Army Medical Command, beginning in FY14, Military Human Immunodeficiency Virus (HIV) Research Program funding is transferred from the Army to the Defense Health Program. This project funds research to develop candidate HIV vaccines, to assess their safety and effectiveness in human subjects, and to protect military personnel from risks associated with HIV infection.

For the Army Medical Command, the Armed Forces Pest Management Board (AFPMB) Deployed Warfighter Protection project provides for the development of new or improved protection of ground forces from disease-carrying insects.

For the Army Medical Command, four Centers of Excellence (CoE) receive medical technology development funds. The Breast Cancer Center of Excellence (Army) provides a multidisciplinary approach as the standard of care for treating breast diseases and breast cancer. The Gynecologic Center of Excellence (Army) focuses on characterizing the molecular alterations associated with benign and malignant gynecologic disease and facilitates the development of novel early detection, prevention and biologic therapeutics (a medicinal preparation created by a biological process used to treat diseases) for the management of gynecologic disease. The Cardiac Health Center of Excellence (Army) provides evidence-based personalized patient engagement approaches for comprehensive cardiac (pertaining to the heart) event prevention through education, outcomes research and technology tools, as well as molecular research to detect cardiovascular (CV) (pertaining to the heart and blood vessels) disease at an early stage to ultimately discover a signature for CV health, to find new genes that significantly increase risk for heart attack in Service members and other beneficiaries, and identify molecular markers of obesity and weight loss. The Pain Center of Excellence (Army) examines the relationship between acute (rapid onset and/or short course) and chronic (persistent or long-lasting, usually longer than 3 months) 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. In FY15, the Pain CoE funding line is transferred from Army to USUHS.

In FY13, DHP funded the following Congressional Special Interest (CSI) peer-reviewed directed research: Amyotrophic Lateral Sclerosis (ALS) (degenerative neuronal disorder that causes muscle weakness and atrophy throughout the body), Autism, Bone Marrow Failure Disease, Ovarian Cancer, Multiple Sclerosis (MS) (disease that affects the brain and the spinal cord and causes severe physical and mental complications), Cancer, Lung Cancer, Orthopedic Research, Spinal Cord Research, Vision, Traumatic Brain Injury and Psychological Health (TBI/PH), Breast Cancer, Prostate Cancer, Gulf War Illness, Alcohol and Substance Use Disorders, Medical Research, Alzheimer Research, Joint Warfighter Medical Research, Global HIV/AIDS Prevention, Tuberous Sclerosis Complex (rare multi-system genetic disease that causes growth of non-malignant tumors in the brain and other vital organs), Duchenne Muscular Dystrophy (gene mutation affecting approximately 1 in 3600 boys that causes

muscle degeneration and eventual death), and the Walter Reed National Military Medical Comprehensive Cancer Center. Because of the CSI annual structure, out-year funding is not programmed.

For the Navy Bureau of Medicine and Surgery, this program element includes funds for research management support costs. The Outside Continental US (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 Global Emerging Infections Surveillance (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.

For the Air Force Medical Service (AFMS), funding in this program element supports the Air Force Surgeon General's vision for "Trusted Care Anywhere" through a robust research and development program. Medical development programs are divided into five primary thrust areas: Enroute care, Expeditionary Medicine, Operational Medicine (in-garrison care), Force Health Protection (FHP) (detect, prevent, threats), and Human Performance. Expeditionary Medicine is focused on care on the battlefield and in field hospitals prior to transporting patients out of theater to CONUS, and studies trauma resuscitation, hemorrhage control, and other life-saving interventions to keep critically wounded patients alive in the golden hour and to the next level of care. The AFMS is the only service transporting patients on long aeromedical evacuation missions from theater to Landstuhl and from Landstuhl to CONUS. Therefore, the Enroute Care thrust area studies include patient timing to transport, cabin altitude, noise, vibration, and environmental issues affecting patient physiology on the aircraft, and the Human Performance thrust area compliments Enroute Care through its studies on medic and aircrew performance on long missions, as well as special operations forces performance. Medical development and biomedical technology investments in FHP seek to deliver an improved force health protection capability across the full spectrum of operations with research that prevents injury/illness through improved identification and control of health risks. Under Force Health Protection, sub-project areas include: Directed Energy, Occupational and Environmental Health, and Advanced Diagnostics/Therapeutics. Operational medicine is focused on in garrison care – our next most critical issue post OIF/OEF – and how to care for the whole patient and consideration of comorbidities in treatment of wounded warriors and dependents.

For the Uniformed Services University of the Health Sciences (USUHS), Medical Development programs include the Neuroscience CoE, the Prostate Cancer CoE, and the Center for Neuroscience and Regenerative Medicine. 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 US 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. The Prostate 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. 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 National Military Medical Center.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program					Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*		R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*			
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	239.110	290.852	298.948	-	298.948
Current President's Budget	656.441	1,085.108	226.131	-	226.131
Total Adjustments	417.331	794.256	-72.817	-	-72.817
• Congressional General Reductions	-1.057	-			
• Congressional Directed Reductions	-132.475	-			
• Congressional Rescissions	-	-			
• Congressional Adds	567.355	802.400			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-8.136	-			
• SBIR/STTR Transfer	-8.356	-8.144			
• Reductions related to Departmental Efficiencies - Project 238C	-	-	-1.106	-	-1.106
• Reductions related to Departmental Efficiencies - Project 243A	-	-	-3.820	-	-3.820
• Reductions related to Departmental Efficiencies- Project 284B	-	-	-1.520	-	-1.520
• Reductions related to Departmental Efficiencies - Project 285A	-	-	-1.982	-	-1.982
• Reductions related to Departmental Efficiencies - Project 307B	-	-	-4.090	-	-4.090
• Reductions related to Departmental Efficiencies - Project 308B	-	-	-1.530	-	-1.530
• Realignment MCNoE Research - Project 309A	-	-	1.533	-	1.533
• Reductions related to Departmental Efficiencies - Project 373A	-	-	-48.681	-	-48.681
• Reductions related to Departmental Efficiencies - Project 378A	-	-	-2.166	-	-2.166
• Reductions related to Departmental Efficiencies - Project 379A	-	-	-1.893	-	-1.893
• Reductions related to Departmental Efficiencies - Project 381A	-	-	-0.399	-	-0.399
• Reductions related to Departmental Efficiencies - Project 382A	-	-	-3.025	-	-3.025

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program					Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*		R-1 Program Element (Number/Name) PE 0603115HP *I Medical Technology Development*			
• Transfer of Pain Center of Excellence (CoE) to USUHS - Project 382B	-	-	2.722	-	2.722
• Reductions related to Departmental Efficiencies - Project 383A	-	-	-1.727	-	-1.727
• Reductions related to Departmental Efficiencies - Project 398A	-	-	-2.017	-	-2.017
• Reductions related to Departmental Efficiencies - Project 431A	-	-	-0.535	-	-0.535
• Reductions related to Departmental Efficiencies - Project 448A	-	-	-1.443	-	-1.443
• Reductions related to Departmental Efficiencies - Project 830A	-	-	-1.138	-	-1.138

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 300A: *CSI - Congressional Special Interests*		
Congressional Add: *245A - Amyotrophic lateral Sclerosis (ALS) Research*	6.895	7.500
Congressional Add: *293A - Autism Research*	5.516	6.000
Congressional Add: *296A - Bone Marrow Failure Disease Research*	2.942	3.200
Congressional Add: *310A - Ovarian Cancer Research*	18.386	20.000
Congressional Add: *328A - Multiple Sclerosis Research*	4.596	5.000
Congressional Add: *335A - Peer-Reviewed Cancer Research*	13.789	25.000
Congressional Add: *336A - Peer-Reviewed Lung Cancer Research*	9.652	10.500
Congressional Add: *337A - Peer-Reviewed Orthopedic Research*	27.578	30.000
Congressional Add: *338A - Peer-Reviewed Spinal Cord Research*	27.578	30.000
Congressional Add: *339A - Peer-Reviewed Vision Research*	9.193	10.000
Congressional Add: *352A - Traumatic Brain Injury/ Psychological Health Research*	73.241	100.000
Congressional Add: *380A - Peer-Reviewed Breast Cancer Research*	110.330	120.000
Congressional Add: *390A - Peer-Reviewed Prostate Cancer Research*	73.542	80.000
Congressional Add: *392A - Gulf War Illness Peer-Reviewed Research*	18.386	20.000
Congressional Add: *396A - Research in Alcohol and Substance Use Disorders*	3.677	4.000
Congressional Add: *400A - Peer-Reviewed Medical Research*	45.964	200.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0603115HP *I Medical Technology Development*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Congressional Add: *417A - Peer-Reviewed Alzheimer Research*	11.031	12.000
Congressional Add: *439A - Joint Warfighter Medical Research*	34.274	65.000
Congressional Add: *451A - Walter Reed National Military Medical Comprehensive Cancer Center*	9.193	-
Congressional Add: *452A - Peer-Reviewed Reconstructive Transplant Research*	-	15.000
Congressional Add: *453A - Trauma Clinical Research Repository*	-	5.000
Congressional Add: *454A - Orthotics and Prosthetics Outcomes Research*	-	10.000
Congressional Add: *456A - HIV/AIDS Program*	-	7.000
Congressional Add: *540A - Global HIV/AIDS Prevention (Navy)*	7.364	8.000
Congressional Add: *660A - Tuberous Sclerosis Complex (TSC)*	5.516	6.000
Congressional Add: *790A - Duchenne Muscular Dystrophy*	2.942	3.200
Congressional Add Subtotals for Project: 300A	521.585	802.400
Congressional Add Totals for all Projects	521.585	802.400

Change Summary Explanation

FY 2013: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0603115-Medical Technology Development (-$8.356 million) to DHP RDT&E, PE 0605502-Small Business Innovation Research (SBIR) Program (+$8.356 million).

FY 2013: Congressional Special Interest (CSI) additions to DHP RDT&E, PE 0603115-Medical Technology Development (+$567.355 million).

FY 2013: General Congressional Reductions to DHP RDT&E, PE 0603115-Medical Technology Development (-$1.057 million).

FY 2013: Congressional Directed Reductions (Sequestration) to DHP RDT&E, PE 0603115-Medical Technology Development (-$132.475 million).

FY 2013: Below Threshold Reprogramming (BTR) from DHP RDT&E PE, 0603115-Medical Technology Development (-$8.136 million) to DHP RDT&E PE, 0606105-Medical Program-Wide Activities (+$8.136 million).

FY 2014: Congressional Special Interest (CSI) additions to DHP RDT&E, PE 0603115-Medical Technology Development (+$802.400 million).

FY2014: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0603115-Medical Technology Development (-$8.144 million) to DHP RDT&E, PE 0605502-Small Business Innovation Research (SBIR) Program (+$8.144 million).

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0603115HP *I Medical Technology Development*

FY 2015: Reduces non-combat injury research funding in order to focus and continue the pace of progress in critical and high priority research areas for DHP RDT&E, PE 0603115-Medical Technology Development (-$77.072 million).

FY2015: Transfer of Pain Center of Excellence (CoE) from Army DHP RDT&E, PE 0603115-Medical Development Technology Development (-$2.722 million) to USUHS DHP RDT&E, PE 0603115-Medical Development Technology Development (+$2.722 million).

FY 2015: Change Proposal to merge USUHS DHP RDT&E, PE 0603115-Medical Development Technology Development (+$1.533 million) Center of Excellence for Neuroscience with Regenerative Medicine.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 300A / *CSI - Congressional Special Interests*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
300A: *CSI - Congressional Special Interests*	540.100	521.585	802.400	-	-	-	-	-	-	-	-	-

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

In FY13, the Defense Health Program funded Congressional Special Interest (CSI) directed research. The strategy for the FY13 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 peer-reviewed research efforts include the following: Amyotrophic Lateral Sclerosis (ALS) (degenerative neuronal disorder that causes muscle weakness and atrophy throughout the body), Autism, Bone Marrow Failure Disease, Ovarian Cancer, Multiple Sclerosis, Cancer, Lung Cancer, Orthopedic Research, Spinal Cord Research, Vision, Traumatic Brain Injury and Psychological Health (TBI/PH), Breast Cancer, Prostate Cancer, Gulf War Illness, Alcohol and Substance Use Disorders, Medical Research, Alzheimer Research, Joint Warfighter Medical Research, Global HIV/AIDS Prevention, Tuberous Sclerosis Complex (rare multi-system genetic disease that causes growth of non-malignant tumors in the brain and other vital organs), Duchenne Muscular Dystrophy (gene mutation affecting boys that causes muscle degeneration and eventual death), and the Walter Reed National Military Medical Comprehensive Cancer Center. Because of the CSI annual structure, out-year funding is not programmed.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
Congressional Add: 245A - Amyotrophic lateral Sclerosis (ALS) Research	6.895	7.500
FY 2013 Accomplishments: This Congressional Special Interest initiative was directed toward research on Amyotrophic Lateral Sclerosis (ALS), also known as Lou Gehrig's disease. The ALS Research Program was a broadly-competed, peer-reviewed research program. Its goal was to contribute to a cure for ALS by funding innovative preclinical research to develop new treatments for ALS. Two award mechanisms were offered in FY13, the Therapeutic Development Award and the Therapeutic Idea Award. Applications will be received in September 2013, followed by scientific peer review in December 2013, and programmatic review in February 2014. Award(s) will be made by September 2014. Sequestration reductions will impact the number of awards.		
FY 2014 Plans: This Congressional Special Interest initiative will provide funds for research in Amyotrophic Lateral Sclerosis (ALS).		
Congressional Add: 293A - Autism Research	5.516	6.000
FY 2013 Accomplishments: This Congressional Special Interest research initiative for Autism Research sought to improve treatment outcomes of Autism Spectrum Disorder (ASD), lead to a better understanding of ASD, and integrate basic science and clinical observations by promoting innovative research. The Autism		

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
Research Program has funded research at universities, hospitals, nonprofit and for-profit institutions, as well as private industry. Two award mechanisms were offered in FY13, the Pilot Award and the Idea Development Award. Applications will be received in October 2013, scientific peer review is planned for December 2013, and programmatic review will take place in February 2014. Award(s) will be made by September 2014. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** This Congressional Special Interest research initiative is for Autism Research.		
Congressional Add: 296A - Bone Marrow Failure Disease Research ***FY 2013 Accomplishments:*** This Congressional Special Interest initiative funded research for bone marrow failure diseases. The mission of the program is to sponsor innovative research that will advance the understanding of inherited and acquired bone marrow failure diseases, and to improve the health and life of individuals living with these diseases, with the ultimate goal of prevention and/or cure. This effort has solicited research proposals focused on bone marrow failure syndromes and their long-term effects from the basic science and clinical research sectors. In FY13, applications will be accepted through one funding opportunity, the Idea Development Award. Application receipt will be September 2013 with scientific peer review scheduled in November 2013, followed by programmatic review planned for January 2014. Award(s) will be made by September 2014. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** This Congressional Special Interest initiative will fund research for bone marrow failure diseases.	2.942	3.200
Congressional Add: 310A - Ovarian Cancer Research ***FY 2013 Accomplishments:*** This Congressional Special Interest initiative funds research for Ovarian Cancer. The overall goal of the program was to eliminate ovarian cancer by supporting high-impact, innovative research. In striving to achieve this goal, the FY13 Ovarian Cancer Research Program was supporting innovative ideas that will provide new paradigms, leveraging critical resources, facilitating synergistic, multidisciplinary partnerships, and cultivating the next generation of investigators in ovarian cancer. Five award mechanisms were offered: Ovarian Cancer Academy Award, Pilot Award, Teal Innovator Award, Resource Development Award, and Clinical Translational Leverage Award. Applications are due in August/September 2013; scientific peer review is scheduled for September/October 2013 with programmatic review scheduled for December 2013. Award(s) will be made by September 2014. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** This Congressional Special Interest initiative will fund research in Ovarian Cancer.	18.386	20.000
Congressional Add: 328A - Multiple Sclerosis Research	4.596	5.000

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
FY 2013 Accomplishments: This Congressional Special Interest initiative funded research for Multiple Sclerosis (MS). The mission of the program was to support pioneering concepts and high-impact research relevant to the etiology (study of the causes of the disease), pathogenesis (mechanisms that occur during disease development), assessment and treatment of MS with the vision of preventing the occurrence, curing, reversing or slowing the progression, and lessening the personal and societal impact of MS. This effort solicits research applications from the basic science and clinical research sectors. Applications for one funding opportunity will be accepted, the Idea Development Award. Applications receipt is due in September 2013 followed by scientific peer review in early November 2013. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** This Congressional Special Interest initiative will fund research in Multiple Sclerosis (MS).		
Congressional Add: 335A - Peer-Reviewed Cancer Research	13.789	25.000
FY 2013 Accomplishments: This Congressional Special Interest research initiative is for the study of cancers designated by Congress. The goal of the Peer-Reviewed Cancer Research Program is to improve the quality of life by significantly decreasing the impact of cancer on service members, their families, and the American public. The funds appropriated by Congress are directed for research in the following areas: blood cancers, colorectal cancer, genetic cancer research, kidney cancer, Listeria vaccine (bacterial-based vaccine) for cancer, melanoma and other skin cancers, mesothelioma (rare form of cancer developed from the protective lining that cover many of the internal organs of the body caused by exposure to asbestos), neuroblastoma (extracraneal solid cancer), pancreatic cancer, and pediatric brain tumors. Two award mechanisms to support these topic areas were released: the Career Development Award and the Idea Award with Special Focus. Applications receipt was October 2013, with a scientific peer review in December 2013, followed by a programmatic review in February 2014. Award(s) will be made by September 2014. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** This Congressional Special Interest research initiative is for the study of cancers impacting service members, their families, and the American public.		
Congressional Add: 336A - Peer-Reviewed Lung Cancer Research	9.652	10.500
FY 2013 Accomplishments: This Congressional Special Interest initiative funds research in Lung Cancer. The vision of the Peer-Reviewed Lung Cancer Research Program is to eradicate deaths from lung cancer to better the health and welfare of the military and the American public. As such, the Lung Cancer Research Program (LCRP) will support and integrate research from multiple disciplines for risk assessment, early detection, diagnosis, prevention, and treatment for the control and cure of lung cancer. To support this vision for		

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
FY13, four award mechanisms were offered in 2013: the Career Development Award, the Clinical Exploration Award, the Idea Development Award, and the Concept Award. Applications were due in July/October 2013. Scientific peer review will be conducted in October/December 2013, and programmatic review for funding recommendations will be made in January 2014. Award(s) will be made by September 2014. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** This Congressional Special Interest initiative will fund research in Lung Cancer.		
Congressional Add: 337A - Peer-Reviewed Orthopedic Research ***FY 2013 Accomplishments:*** This Congressional Special Interest research initiative supports orthopedic research that will advance optimal treatment and rehabilitation from musculoskeletal skin, muscles, bones and bone marrow injuries sustained during combat or combat-related activities. The effort solicited innovative, high-impact and clinically-relevant research, with a focus on collaborations between military and non-military researchers and clinicians. Four award mechanisms were offered in FY13: Clinical Trial, Clinical Trial Development, Translational Research, and Idea Development Awards. Pre-applications were due in April 2013, applications were due in July 2013, scientific peer review took place in September 2013, and programmatic review for funding recommendations was held in November 2013. Award(s) will be made by September 2014. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** This Congressional Special Interest research initiative will support orthopedic research.	27.578	30.000
Congressional Add: 338A - Peer-Reviewed Spinal Cord Research ***FY 2013 Accomplishments:*** This Congressional Special Interest research initiative was to support Spinal Cord Injury (SCI) research. Within this context, this initiative focuses its funding on innovative projects that have the potential to make a significant impact on the health and well-being of military service members, Veterans, and other individuals living with SCI. This research effort is offering four award mechanisms in FY13: Clinical Trial, Investigator-Initiated Research, Qualitative Research and Translational Research Awards. Pre-applications were due in June 2013, applications were due in October 2013, scientific peer review will take place in December 2013, and programmatic review for funding recommendations will be held in February 2014. Award(s) will be made by September 2014. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** This Congressional Special Interest research initiative will support Spinal Cord Injury (SCI) research.	27.578	30.000
Congressional Add: 339A - Peer-Reviewed Vision Research	9.193	10.000

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
FY 2013 Accomplishments: This Congressional Special Interest research effort for Peer-Reviewed Vision Research targets the causes, effects and treatments of eye damage, visual deficits due to traumatic brain injury (TBI) and diseases that, despite their different pathogenesis (mechanisms that occur during disease development), all have a common end result: degeneration of the critical components of the eye and impairment or loss of vision. The results of this research are intended to be used for restoration and maintaining of visual function to ensure and sustain combat readiness. Basic, translational (conversion of findings in basic science to practical applications) and clinical research efforts are sought to ensure that results of scientific research will be used to directly benefit the lives of military, veteran and civilian populations. Critical areas of research include advances and improvements in: vision rehabilitation strategies and quality of life measures, vision restoration, mitigation and treatment of traumatic injuries, treatment for war-related injuries and diseases to ocular structures and the visual system, treatment of visual dysfunction (abnormal functioning pertaining to the eyes) associated with traumatic brain injury (TBI), ocular and visual systems diagnostic capabilities and assessment strategies, and Warfighter vision readiness and enhancement related to refractive surgery. To meet the goals of the program, two award mechanisms support vision research, the Translational Research Award and the Hypothesis Development Award. The Hypothesis Development Awards will have a ceiling not to exceed $250K and a period of performance up to two years. The Translational Research Awards will have a ceiling not to exceed $1.0M and a period of performance up to three years. Pre-applications were due in November 2013, applications are due in February 2014, scientific peer review will take place in March 2014, and programmatic review for funding recommendations will be held in May 2014. Award(s) will be made by September 2014. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** This Congressional Special Interest research effort is for Peer-Reviewed Vision Research.		
Congressional Add: 352A - Traumatic Brain Injury/ Psychological Health Research	73.241	100.000
FY 2013 Accomplishments: The Traumatic Brain Injury and Psychological Health (TBI/PH) Congressional Special Interest project aims to prevent, mitigate, and treat the effects of combat-relevant traumatic stress and TBI on function, wellness, and overall quality of life, including interventions across the deployment lifecycle for warriors, Veterans, family members, caregivers, and communities. Project funding was divided into basic research, applied research, technology development and advanced concept development efforts. A key priority of the TBI/PH research program was to complement ongoing Department of Defense (DoD) efforts to ensure the health and readiness of our military forces by promoting a better standard of care for post-traumatic stress disorder (PTSD) and TBI in the areas of prevention, detection, diagnosis, treatment, and rehabilitation. Program announcements, programmatic reviews, Service-requested nominations, and ongoing studies that would benefit from program acceleration have been incorporated to address these priorities and gather proposals. In the		

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
area of TBI, researchers continued clinical trials to treat mild TBI with an oral drug, a trial using diffusion tensor imaging (method for diagnosing cerebral blood supply restriction known as ischemia) to diagnose mild TBI in service members, and a trial performed in partnership with the NIH looking for better ways to image TBI. Proposals were received for advanced neurotrauma (nerve injury) imaging techniques and for a new VA/DoD, multi-university, trauma consortium to discover mechanisms of treatment and the long-term effects of TBI and its relationship to chronic traumatic encephalopathy (CTE) (progressive degenerative disease, which can only be definitively diagnosed postmortem in individuals with a history of multiple concussions and other forms of head injury). Proposals were also received to conduct applied research to address pain and sensory deficits (vision/hearing and balance) associated with TBI. In the area of psychological health, researchers performed investigations to assess the risk of psychological health problems in children of service members; understand how the deployment cycle affects marriage quality and stability; workplace violence in the military; alcohol use and co-occurring PTSD. Furthermore, a new VA/DoD consortium to alleviate PTSD program announcement was released to address PTSD treatment needs. ***FY 2014 Plans:*** This Congressional Special Interest project will support Traumatic Brain Injury and Psychological Health (TBI/PH) research.		
Congressional Add: 380A - Peer-Reviewed Breast Cancer Research	110.330	120.000
FY 2013 Accomplishments: This Congressional Special Interest research initiative was for studying Breast Cancer. The Breast Cancer Research Program (BCRP) challenged the scientific community to design research that addresses the urgency of ending breast cancer. Applications were either required or encouraged to address at least one of eight overarching challenges, which are focused on metastasis (spread of a cancer from one organ or part to another non-adjacent organ or part), primary prevention, over-diagnosis and overtreatment, safe and effective interventions, risk factors, and/or recurrence. To support the vision of ending breast cancer, five award mechanisms were developed to support meritorious breast cancer research: Breakthrough Award, Era of Hope Scholar Award, Innovator Award, Idea Expansion Award, and Postdoctoral Fellowship Award. The Breakthrough Award accepted applications under four funding levels, depending on the scope of the research project, which could range from initial proof-of-concept to clinical trials. The Breakthrough and Postdoctoral Fellowship Awards were offered twice during this fiscal year. Application submission deadlines were in July and September 2013 and in January 2014. Scientific peer review will be completed in August and November 2013 and in March 2014, and funding recommendations will be made at programmatic reviews in October		

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
2013, January 2014, February 2014, and May 2014. Award(s) will be made by September 2014. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** This Congressional Special Interest research initiative is for studying Breast Cancer.		
Congressional Add: 390A - Peer-Reviewed Prostate Cancer Research	73.542	80.000
FY 2013 Accomplishments: This Congressional Special Interest research was to study Prostate Cancer. The vision for this effort was to conquer prostate cancer by funding research to eliminate death from prostate cancer and enhance the well-being of men experiencing the impact of the disease. To address the most critical current needs in prostate cancer research and clinical care, the Prostate Cancer Research Program (PCRP) developed three overarching challenges to be addressed by the research community: (1) develop better tools to detect clinically relevant disease in asymptomatic men, (2) distinguish aggressive from indolent (slow to develop) disease in men newly diagnosed with prostate cancer, and (3) develop effective treatments and address mechanisms of resistance for men with high risk of metastatic prostate cancer. In addition, research projects were solicited in the areas of biomarker development, genetics, imaging, mechanisms of resistance, survivorship and palliative care (alleviating pain and symptoms without eliminating the cause), therapy, and tumor and microenvironment biology. To meet these goals for FY13, thirteen award mechanisms were developed to support significant prostate cancer research. These included: Biomarker Development Award, Clinical Consortium Award, Collaborative Undergraduate HBCU Student Summer Training Program Award, Exploration-Hypothesis Development Award, Health Disparity Research Award, Idea Development Award, Laboratory-Clinical Transition Award, Physician Research Training Award, Population Science Impact Award, Postdoctoral Training Award, Prostate Cancer Pathology Resource Network Award, Synergistic Idea Development Award, and Transformative Impact Award. Application submission deadlines occurred in July-October 2013, scientific peer review will occur in August-December 2013, and programmatic review and funding recommendations will occur in February-March 2014. Award(s) will be made by September 2014. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** This Congressional Special Interest research is to study Prostate Cancer.		
Congressional Add: 392A - Gulf War Illness Peer-Reviewed Research	18.386	20.000
FY 2013 Accomplishments: This Congressional Special Interest research initiative was for Gulf War Illness Research. The program's vision of improving the health and lives of veterans who have the complex symptoms known as Gulf War Illness is being addressed through the funding of innovative research to identify effective treatments, to improve its definition and diagnosis, and to better understand its pathobiology (study of structural and functional manifestations of a disease with emphasis on the biological aspects) and symptoms. Applications		

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
were accepted for FY13 through four award mechanisms: the Clinical Trial Award, Clinical Trial Development Award, Innovative Treatment Evaluation Award, and Investigator-Initiated Research Award. Applications will be received in September 2013, scientific peer review will be conducted in December 2013, and funding recommendations will be made at programmatic review in February 2014. Award(s) will be made by September 2014. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** This Congressional Special Interest research initiative is for Gulf War Illness Research.		
Congressional Add: 396A - Research in Alcohol and Substance Use Disorders	3.677	4.000
FY 2013 Accomplishments: This Congressional Special Interest research effort on Research in Alcohol and Substance Use Disorders is a competitive program to create translational research addressing alcohol and substance abuse issues. The goal of this project was to develop new treatments for those struggling with alcohol and substance abuse who also suffer from post-traumatic stress disorder (PTSD) and/or traumatic brain injury (TBI). This comes at a crucial time as alcohol and substance abuse continues to rise among service members. Proposals have been received and selected. Animal models are being developed to look at binge drinking and PTSD, along with therapeutic approaches for substance abuse treatment that can reduce binge drinking and may attenuate PTSD symptoms. Primary outcomes are showing positive trends to reduce alcohol consumption, craving for alcohol and PTSD symptoms. Six proof of principle projects were awarded in September 2013. Studies include PTSD and protecting degeneration of the nervous system against alcohol toxic effects on the nerves in order to determine the pathophysiologic significance (functional changes associated with disease or injury) following traumatic stress. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** This Congressional Special Interest research effort is for Research in Alcohol and Substance Use Disorders.		
Congressional Add: 400A - Peer-Reviewed Medical Research	45.964	200.000
FY 2013 Accomplishments: This Congressional Special Interest initiative addressed peer-reviewed medical research. The vision of the program was to identify and fund the best medical research to protect and support Warfighters, Veterans, and other beneficiaries and to eradicate diseases that impact these populations. Research proposals submitted to the FY13 program must focus on at least one of the 24 Congressionally-directed topics. These topic areas are: chronic kidney disease, chronic migraine and post-traumatic headaches, composite tissue transplantation, dengue (a severe debilitating disease caused by a virus and transmitted by a mosquito), dystonia (a neurological movement disorder), DNA vaccine technology for post exposure prophylaxis (a treatment to prevent or stop disease from spreading), epilepsy, food allergies, fragile X syndrome (the most widespread single-gene cause of autism and inherited cause of mental retardation among boys), hantavirus,		

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
hereditary angioedema (genetic condition characterized by swelling of the hands, feet, face, abdomen and airway), inflammatory bowel disease, interstitial cystitis (painful bladder syndrome), leishmaniasis, lupus, malaria, nanomedicine for drug delivery science, pancreatitis (inflammation of the pancreas), polycystic kidney disease (a genetic condition that causes fluid-filled cysts to form in the kidney, and the fourth leading cause of kidney failure), post-traumatic osteoarthritis, pulmonary hypertension, rheumatoid arthritis, scleroderma (buildup of scar-like tissue in the skin), and tinnitus. Four funding opportunities have been offered for FY13: the Investigator-Initiated Research Award, Technology/Therapeutic Development Award, Discovery Award, and Clinical Trial Award mechanisms. Application receipt occurred in August 2013 for the Discovery Award and October 2013 for the remaining mechanisms. Scientific peer review was conducted in September 2013 for the Discovery Award, and will be held in -December 2013 for the other three mechanisms. Funding recommendations will be made during programmatic review in February 2014. Award(s) will be made by September 2014. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** This Congressional Special Interest initiative is for Peer-Reviewed Medical Research.		
Congressional Add: 417A - Peer-Reviewed Alzheimer Research	11.031	12.000
FY 2013 Accomplishments: The goal of the Militarily Relevant Peer-Reviewed Alzheimer's (MRPRA) Congressional Special Interest Research Program was to gain an understanding of the genesis of Traumatic Brain Injury (TBI)-associated neurodegenerative disease. Equally important, the program also sought to invest in new strategies dedicated to improving the quality of life for those affected by the similar symptoms of TBI and/or Alzheimer's disease. The MRPRA employs a two-tiered process of scientific and programmatic review. The programmatic review was completed by the MRPRA's Program Steering Committee, comprised of governmental, military, and not-for-profit experts. Fifteen projects were funded with FY12 dollars, including the second phase of the Vietnam Veterans Alzheimer's Disease Neuroimaging Initiative (VVADNI) study. The FY13 funding cycle is halfway completed. Three FY13 award mechanisms were made available: the Convergence Science Research Award, the Quality of Life Research Award and the Military Risk Factors Research Award. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** This Congressional Special Interest research program is to study Alzheimer's disease.		
Congressional Add: 439A - Joint Warfighter Medical Research	34.274	65.000
FY 2013 Accomplishments: The Joint Warfighter Medical Research Program (JWMRP) is intended to provide continuing support for promising previously funded Congressional Special Interest projects. The focus is to augment and accelerate high priority DoD and Service medical requirements that are close to achieving their objectives and yielding a benefit to military medicine. Project funding is divided into technology		

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
development and engineering and manufacturing development efforts. The JWMRP directly supports military medical research in military infectious diseases, combat casualty care, military operational medicine, medical simulation and training and health information sciences, and clinical and rehabilitative medicine to include pain management, regenerative medicine, and neuromusculoskeletal and sensory system (hearing and sight) rehabilitation and restoration. Through an iterative process of recommendations, prior year CSI-funded projects were nominated for consideration by the Services, Joint Program Committee Chairs, and execution management activities. Those projects deemed by the Joint Program Committees to have the highest priority to fill critical research or materiel gaps and those projects close to developing a product were invited to submit a full proposal for the next level of effort. A technical review of the full proposals was completed. A Programmatic Review Board recommended 17 projects in the technology development area and 7 projects in the engineering and manufacturing development area for funding. Sequestration reductions will impact the number of awards. The office of the Assistant Secretary of Defense – Health Affairs approved the recommended funding prioritization list. Projects selected for funding are in the initial stages of the contracting process. Most of the awards will be complete by the end of the third quarter of FY14. ***FY 2014 Plans:*** This Congressional Special Interest project will support the Joint Warfighter Medical Research Program (JWMRP).		
Congressional Add: 451A - Walter Reed National Military Medical Comprehensive Cancer Center	9.193	-
FY 2013 Accomplishments: This Congressional Special Interest initiative was to establish a national coordinating cancer center for the cancer centers of excellence. Work is to be conducted at the Walter Reed National Military Medical Center (WRNMMC), and executed by the Joint Task Force National Capital Region Medical Center (JTF CAPMED). The research aims of this propram are directed to the development of evidence-based best practices applicable to most of the MHS. This program will lead to a decrease in the morbidity and mortality of cancer through the integration of basic and translational research discovery, technological advances, clinical trials, aggressive prevention programs and the application of more effective treatments and creation of enhanced clinical and support services. The findings of the studies will provide templates for optimal cancer care, treatment, and support services from the time of detection through the curative stages and beyond into survivorship. Because the Murtha Cancer Center has been designated by the DoD MHS Centers of Excellence Oversight Board as the sole DoD Cancer Center of Excellence, the results of these studies will benefit the total MHS. Three research areas are included: Military Population Sciences and Epidemiology, Biorepository and Research Data Management, and Evidence-based Models for Cancer Management and Care in MTFs. Applications have been received. Scientific peer review will be conducted in		

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
September/October 2013 with programmatic review scheduled for December 2013. Award(s) will be made no later than September 2014.		
Congressional Add: 452A - Peer-Reviewed Reconstructive Transplant Research ***FY 2013 Accomplishments:*** None. ***FY 2014 Plans:*** This Congressional Special Interest research initiative is for Reconstructive Transplant Research.	-	15.000
Congressional Add: 453A - Trauma Clinical Research Repository ***FY 2013 Accomplishments:*** None. ***FY 2014 Plans:*** This Congressional Special Interest research initiative will study the development of a Trauma Clinical Research Repository.	-	5.000
Congressional Add: 454A - Orthotics and Prosthetics Outcomes Research ***FY 2013 Accomplishments:*** None. ***FY 2014 Plans:*** This Congressional Special Interest research initiative will provide for Orthotics and Prosthetics Outcomes Research.	-	10.000
Congressional Add: 456A - HIV/AIDS Program ***FY 2013 Accomplishments:*** None. ***FY 2014 Plans:*** This Congressional Special Interest research initiative will provide for HIV/AIDS research.	-	7.000
Congressional Add: 540A - Global HIV/AIDS Prevention (Navy) ***FY 2013 Accomplishments:*** Program emphasis was 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. The strategy for the FY13 Congressionally directed research identified above was to stimulate innovative research through a competitive, peer reviewed research program, as well as focused medical research at intramural and extramural research sites. Specific research efforts included HIV/AIDS. The HIV/AIDS prevention program conducted on-site visits to determine eligible areas for technical assistance and resource support, and provided support to defense forces in the following areas: (1) HIV prevention, which includes training of medical personnel and peer educators, education of military members, provision of condoms and other	7.364	8.000

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
prevention materials, provision of educational materials such as brochures, posters, and booklets; (2) care for HIV-infected individuals and their families to include provision of electronic medical record programs, medications to treat HIV-related issues, physician education, and clinic infrastructure support; (3) treatment services including provision of laboratory services such as HIV test kits, and other laboratory equipment; and (4) Strategic Information including systems to collect information on the effectiveness of HIV treatment and prevention programs and generate databases of such information to guide treatment and prevention programs. The HIV/AIDS Prevention Program provided technical assistance and resource support for 25 foreign defense forces in FY13. Accomplishments included over 35,290 individuals that received testing and counseling services for HIV and received their test results, 34,104 military members and their dependents targeted with HIV prevention interventions, more than 920 health care workers successfully completing an in-service training program, and 3,177 pregnant women knew their HIV status based on testing and counseling services provided to them. Because of the CSI annual structure, out-year funding is not programmed. ***FY 2014 Plans:*** This Congressional Special Interest project will support Global HIV/AIDS Prevention research.		
Congressional Add: 660A - Tuberous Sclerosis Complex (TSC) ***FY 2013 Accomplishments:*** The Congressional Special Interest research initiative for Tuberous Sclerosis Complex (TSC) (rare multi-system genetic disease that causes growth of non-malignant tumors in the brain and other vital organs) was promoting innovative research focused on decreasing the clinical impact of TSC. Within this context, this initiative was encouraging applications that address a number of vital areas of emphasis. This research effort was offering three award mechanisms to support TSC research: Idea Development, Exploration-Hypothesis Development, and Pilot Clinical Trial Awards. Applications were due July 2013, scientific peer review was conducted in August 2013, and funding recommendations will be made at programmatic review in December 2013. Award(s) will be will be made by September 2014. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** The Congressional Special Interest research initiative is for Tuberous Sclerosis Complex (TSC) research.	5.516	6.000
Congressional Add: 790A - Duchenne Muscular Dystrophy ***FY 2013 Accomplishments:*** This Congressional Special Interest initiative was for research focused on Duchenne Muscular Dystrophy (DMD) (gene mutation affecting approximately 1 in 3600 boys that causes muscle degeneration and eventual death). The vision for this effort was to extend and improve the function, quality of life, and lifespan for all individuals diagnosed with DMD by supporting research to better inform	2.942	3.200

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
the development of drugs, devices, and other interventions and promote their effective clinical testing. To support this vision for FY13, one award mechanism was offered in 2013, the Investigator-Initiated Research Award. Applications were due in November 2013, scientific peer review will take place in January 2014, and programmatic review will be held in March 2014. Award(s) will be made by September 2014. Sequestration reductions will impact the number of awards. ***FY 2014 Plans:*** This Congressional Special Interest initiative is for research focused on Duchenne Muscular Dystrophy (DMD).		
Congressional Adds Subtotals	521.585	802.400

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Research proposals will be solicited by program announcements resulting in grants, contracts, or other transactions.

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 238C / *Enroute Care Research & Development (Budgeted) (AF)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
238C: *Enroute Care Research & Development (Budgeted) (AF)*	3.261	0.424	4.666	3.394	-	3.394	3.334	4.090	4.479	4.564	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Enroute Care Research & Development (Air Force): This project area seeks to advance aeromedical transport capabilities through the research and development of rapid, more efficient, and safer patient transport from the point of injury to definitive care and to understand the effects of altitude on seriously injured war fighters. Efforts will focus on translating technological advancements and groundbreaking clinical research into transitionable products. The sub-project areas include: Physiological Effects of Aeromedical Evacuation on patients and crew, impact of transport times on En-Route Trauma and Resuscitative Care, and En-Route Patient Safety. Because patients experience multiple handoffs between teams of caregivers during transport between austere environments and definitive care, efforts in this sub-project area examine human factors considerations in en-route patient safety in order to develop new and enhance existing methods to mitigate risk in all en-route care environments.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Enroute Care Research & Development (Budgeted) (AF)	0.424	4.666	3.394

Description: Enroute Care Research & Development (Air Force): This project area seeks to advance aeromedical transport capabilities through the research and development of rapid, more efficient, and safer patient transport from the point of injury to definitive care and to understand the effects of altitude on seriously injured war fighters. Efforts will focus on translating technological advancements and groundbreaking clinical research into transitionable products. The sub-project areas include: Physiological Effects of Aeromedical Evacuation on patients and crew, impact of transport times on En-Route Trauma and Resuscitative Care, and En-Route Patient Safety. Because patients experience multiple handoffs between teams of caregivers during transport between austere environments and definitive care, efforts in this sub-project area examine human factors considerations in en-route patient safety in order to develop new and enhance existing methods to mitigate risk in all en-route care environments.

FY 2013 Accomplishments:

Completed Air Worthiness certification for simulator mannequin and initiated use on Aeromedical Evacuation (AE) and Critical Care Transport Team (CCATT) training flights – transitioned to the CCATT Pilot Unit. Continued research to enhance the care of acutely injured AE trauma patients though projects assessing closed loop technology for autonomous control of oxygenation and ventilation. Completed and archived miniaturized Extra Corporal Membrane Oxygenation (ECMO) device bovine study. Analyzed initial results of research assessing the clinical effect of prolonged hypobaria during AE on Traumatic Brain Injury (TBI), how AE affects blood volume responsiveness, pain assessment during AE, and factors impacting patient safety during AE. Began

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 238C / *Enroute Care Research & Development (Budgeted) (AF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
assessing how the transport of psychiatric patients impacts AE crew protocols. Began research for identifying optimal time to transport patients to ensure best outcomes. Began investigations into advanced development options for AE material solutions: began testing for a portable electrical power source; began development of a negative pressure multi-channel negative pressure wound therapy device; awarded and initiated automation of the CCATT patient record (Form 3899L) onto a widely-accepted portable physiologic monitoring device; and supported Air Mobility Command (AMC) in prototype development for a replacement aircraft patient loading system. Spear-headed DoD Information Assurance Certification and Accreditation Program (DIACAP) for telemedicine capability of a physiologic monitoring device in support of AMC requirements, which will allow for transmission of aeromedical electronic medical information across DoD information platforms. Presented research findings in peer-reviewed journals and at national meetings. ***FY 2014 Plans:*** Finalize FDA requirements and plan for transition of the miniaturized ECMO device to AMC for AE and CCATT use. Make recommendations regarding way-ahead on closed loop ventilation and oxygenation. Complete research assessing the clinical effect of prolonged hypobaria during AE, how AE affects blood volume responsiveness, pain assessment during AE, and factors impacting patient safety during AE. Apply the results of the effectiveness of life saving interventions study to modifying clinical practice guidelines. Identify FDA requirement and transition dates for AE material solutions. ***FY 2015 Plans:*** Plan and test for transition of miniaturized Extra Corporal Membrane Oxygenation device to Air Mobility Command (AMC) for Aeromedical Evacuation (AE) and Combat Casualty Air Transport Team (CCATT) and lung team use on long flight missions. Monitor technology readiness level of closed loop ventilation and oxygenation. Analyze final results of research assessing the clinical effect of prolonged hypobaria during AE, how AE affects blood volume responsiveness, improving pain management during AE, and factors impacting patient safety during AE, and determine translational elements of completed research or need for further studies. Complete and transition automated CCATT patient record and multi-channel negative pressure wound therapy device to acquisition process. Analyze results of cabin altitude restriction retrospective study, which should lead to better evidence-based decision-making for when to fly low. Continue swine study to investigate post AE effects on coagulation and inflammation. Continue investigating new research and development requirements based on results of prior studies and warfighter gap analyses.			
Accomplishments/Planned Programs Subtotals	0.424	4.666	3.394

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 238C / *Enroute Care Research & Development (Budgeted) (AF)*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, PE 0807714HP: *Other Consolidated Health Support*	12.669	13.049	13.441	-	13.441	13.844	14.259	14.655	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Broad Area Announcement (BAA) and Intramural calls for proposal are used to award initiatives in this program and project following determinatinons of scientific and technical merit, validation of need, prioritization, selection and any necessary legal and/or regulatory approvals (IRB, etc)

E. Performance Metrics

Individual initiatives are measured through a quarterly annual project performance reporting system and program management review process -- performance is measured against standardized criteria for cost, schedule and performance (technical objectives) and key performance parameters. Variances, deviations and/or breaches in key areas are reviewed and a decision is rendered on any adjustments through a formalized process of S&T governance.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 243A / *Medical Development (Lab Support) (Navy)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
243A: *Medical Development (Lab Support) (Navy)*	33.555	28.413	36.386	34.378	-	34.378	37.580	38.211	40.942	35.462	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

For the Navy Bureau of Medicine and Surgery, this program element (PE) includes costs related to laboratory management and support salaries of government employees that are not paid from science/research competitively awarded funding. The Outside Continental U.S. (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 Global Emerging Infections Surveillance (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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Medical Development (Lab Support) (Navy)	28.413	36.386	34.378
Description: RDT&E funds for operating and miscellaneous support costs at RDT&E laboratories, including facility, equipment and civilian personnel costs that are not directly chargeable to RDT&E projects. Excludes military manpower and related costs, non-RDT&E base operating costs, and military construction costs, which are included in other appropriate programs.			
FY 2013 Accomplishments: Provided funding for operating and miscellaneous support costs to eight BUMED medical research laboratories across 15 product lines that protect, treat, enhance, and rehabilitate the Warfighter. Operating support funding enabled research staff at the eight labs to achieve high levels of scientific productivity to include: 390 distinct science work units; 164 publications; 301 professional science presentations; 24 formal technical reports; and 31 patent applications.			
FY 2014 Plans: Continue to provide operating and miscellaneous support costs at BUMED research laboratories. Continue to provide support for technologically advanced cutting edge research equipment for research and data acquisition, automated sampling and real time statistical analysis of biomedical research data utilizing data information systems integral with new equipment. Continue to provide replacement of obsolete general purpose research equipment.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 243A / *Medical Development (Lab Support) (Navy)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Additional Funding received will be used for 64 administrative civilian FTE's that had to be reprogrammed from the overhead account, due to new financial model. Funding will also be used for existing government inherent civilian vacancies that are not in the current manpower controls. ***FY 2015 Plans:*** Provide operating support for eight medical RDT&E labs across 15 product lines to develop products and strategies that protect, treat, rehabilitate and enhance the performance of the Warfighter, and enable the labs to meet or exceed science performance metric objectives.			
Accomplishments/Planned Programs Subtotals	28.413	36.386	34.378

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Metrics include timely and proportionate distribution of funds to labs and product lines to optimize resource utilization in the development and evaluation of products that protect, treat, rehabilitate and enhance the performance of the Warfighter.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 284B / *USAF Human Physiology, Systems Integration, Evaluation & Optimization Research (Budgeted) (AF)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
284B: *USAF Human Physiology, Systems Integration, Evaluation & Optimization Research (Budgeted) (AF)*	2.421	0.225	3.694	2.280	-	2.280	3.705	4.697	5.327	6.091	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Human Performance (Human Physiology, Evaluation & Optimization) Research & Development (Air Force): This project area seeks to enhance, optimize & sustain performance of Air Force personnel through the evaluation and alleviation of health effects associated with carrying out assigned missions. This work includes efforts to adapt, survive and thrive in extreme environments. It also addresses unique Air Force operational environments such as the mitigation of stress on personnel involved in remote piloted aircraft operations. The sub-project areas include: Cognitive Performance which includes fatigue management, Physiological Performance and Targeted Conditioning which includes training techniques for optimal performance, and identification of solutions related to operational and environmental challenges to performance.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: USAF Human Physiology, Systems Integration, Evaluation & Optimization Research (Budgeted) (AF)	0.225	3.694	2.280

Description: Human Performance (Human Physiology, Evaluation & Optimization) Research & Development (Air Force): This project area seeks to enhance, optimize & sustain performance of Air Force personnel through the evaluation and alleviation of health effects associated with carrying out assigned missions. This work addresses unique Air Force operational environments such as the mitigation of stress on personnel involved in remote piloted aircraft operations. The sub-project areas include: Cognitive Performance which includes fatigue management, Physiological Performance and Targeted Conditioning which includes training techniques for optimal performance, and identification of solutions related to Operational and Environmental Challenges to Performance.

FY 2013 Accomplishments:

Achieved initial operational capability of the Operationally Based Vision Assessment (OBVA) project and transitioned it to sustainment. High altitude/U-2 pilot MRI imaging and preliminary comparison to control groups which has supported operational changes. It has also identified a second cohort that has an abnormal level of brain white matter hyper densities, which may be indicative of mild Traumatic Brain Injury (TBI). Began studies of the effects of Modafinil when used in combination with over-the-counter stimulants. A broad study was initiated to monitor the ability to reduce injury rates and effects, both short and long term, through changes in physical training programs for battlefield airman. Mountain acclimatization study recruited subjects and began

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 284B / *USAF Human Physiology, Systems Integration, Evaluation & Optimization Research (Budgeted) (AF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
setup of equipment. A study on risk and protective factors (including their family support) and social-occupational impairment among AF Special Operations Forces was initiated. ***FY 2014 Plans:*** Complete high altitude/U-2 pilot imaging and comparison baseline studies. Complete mountain altitude acclimatization research. Complete the study on risk and protective factors and social-occupational impairment among AF Special Operations Forces personnel. Pursue human systems integration studies. Assess fatigue management using non-visual light stimulation. Expand ongoing studies on understanding hypoxia, focusing on previously unidentified latent effects. ***FY 2015 Plans:*** Complete non-visual light stimulation as a countermeasure for fatigue study. Conclude efforts identifying the effects of combining over-the-counter stimulants with Modafinil, which may stimulate the need for further research. Apply results from high altitude and hypoxia studies to refine this line of research and potentially spur operational changes. Implement plans to pursue human systems integration studies, focusing on identified gaps.			
Accomplishments/Planned Programs Subtotals	0.225	3.694	2.280

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

SEE OTHER PROGRAM FUNDING SUMMARY FOR PROJECT CODE 238C WHICH IS A SUMMARY OF OTHER PROGRAM FUNDING SUPPORT TO ALL PROJECTS AND PROGRAMS IN THIS PE FOR DHP-AF

D. Acquisition Strategy

Broad Area Announcement (BAA) and Intramural calls for proposal are used to award initiatives in this program and project following determinatinons of scientific and technical merit, validation of need, prioritization, selection and any necessary legal and/or regulatory approvals (IRB, etc).

E. Performance Metrics

Individual initiatives are measured through a quarterly annual project performance reporting system and program management review process -- performance is measured against standardized criteria for cost, schedule and performance (technical objectives) and key performance parameters. Variances, deviations and/or breaches in key areas are reviewed and a decision is rendered on any adjustments through a formalized process of S&T governance.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 285A / *Operational Medicine Research & Development (Budgeted) (AF)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
285A: *Operational Medicine Research & Development (Budgeted) (AF)*	8.005	0.141	4.907	1.983	-	1.983	1.857	2.294	2.699	3.399	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Operational Medicine Thrust Area develops validated solutions for the delivery of preventative care, intervention and treatment to Active Duty members and DoD beneficiaries. The primary focus areas include: physiologic and psychological health; sub-topics include resilience, personalized medicine, patient safety, and care coordination. Basic research initiatives are developed and translated into practice; advanced technology initiatives are focused on prevention and treatment of chronic disease such as obesity and diabetes. Personalized medicine focuses on genomic issues related to autism, asthma, and obesity.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Operational Medicine Research & Development (Air Force)	0.141	4.907	1.983

Description: The Operational Medicine Thrust Area develops validated solutions for the delivery of preventative care, intervention and treatment to Active Duty members and DoD beneficiaries. The primary focus areas include: physiologic and psychological health; sub-topics include resilience, personalized medicine, patient safety, and care coordination. Basic research initiatives are developed and translated into practice; advanced technology initiatives are focused on prevention and treatment of chronic disease such as obesity and diabetes. Personalized medicine focuses on genomic issues related to autism, asthma, and obesity.

FY 2013 Accomplishments:

Completed development/animal testing of thoracic aortic balloon occlusion prototype, worked with industry and academia to transition to next phase of testing. Completed several Congressionally funded projects related to use of a mobile technology for management of diabetes which resulted in completion of the technical integration of a FDA approved diabetes management mobile application with a civilian Electronic Health Record (EHR); continued development of a comprehensive registry for Autism Spectrum Disorders (ASD) in Central Ohio; identified 24 noncoding DNA variants for autism susceptibility; and sustained expanded autism clinical diagnostic and treatment services for Wright Patterson AFB families in collaboration with Dayton Children's Hospital. Completed work on (7) congressionally funded diabetes research projects sustained: Pediatric Weight Management Center at Wilford Hall Medical Center; continued expansion of the nationally recognized obesity and diabetes prevention program (Group Lifestyle Balance Program) for beneficiaries with creation of online version of 16 week course and six AFMS personnel achieved Group Lifestyle Balance Master Trainers certification; Joint Base Andrews, one of two AFMS facilities, received American Diabetes Association Recognition status for the Military Treatment Facility (MTF)'s Diabetes Self-Management Education Program. Completed research efforts related to the pathophysiology of traumatic corneal scar injury in

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 285A / *Operational Medicine Research & Development (Budgeted) (AF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
an animal model and positively demonstrated that use of immunomodulatory agents after photorefractive keratotomy decreased incidence of corneal haze, paving the way for revision of DoD clinical practice guidelines. Using AF DHP RDT&E, funded/initiated two personalized medicine studies to include continuation of the work to identify new autism susceptibility variants and expansion of the ASD registry, as well as a project to identify genes for which obesity modifies the association with asthma. ***FY 2014 Plans:*** Continue patient centered/personalized medicine research efforts related to autism and obesity. Align resources with academia and other health agencies to evaluate outcomes of standardized diabetes prevention initiatives, including online resources. Through intramural efforts, determine if a medication therapy management program for patients with chronic pain at a large Military Treatment Facility will reduce costs and improve outcomes. Evaluate personalized prevention and treatment efforts related to Patient-Centered Precision Care. Building on previous work, identify opportunities for advanced development of mobile health application technologies within the MHS for personalized disease prevention and management. Begin evaluation of utilization and effectiveness of current AF mental health/family support programs for the purposes of identifying gaps and possible solutions to areas such as marital discord, family maltreatment, binge drinking, and suicide. ***FY 2015 Plans:*** Building on previous work, concentrate on the use of mobile health technologies to integrate evidenced-based solutions into clinical practice and the EHR to positively influence behavior and promote health. Further the work related to AF mental health/ family support by pilot testing proposed solutions to specified issues in an effort to translate solutions into AFMS wide practice. Determine the timeliness of communication (information exchange) of clinical information and the effectiveness of communication processes to identify gaps or potential patient safety issues that may impact outcomes to include morbidity and mortality.			
Accomplishments/Planned Programs Subtotals	0.141	4.907	1.983

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Broad Area Announcement (BAA) and Intramural calls for proposal are used to award initiatives in this program and project following determinations of scientific and technical merit, validation of need, prioritization, selection and any necessary legal and/or regulatory approvals (IRB, etc).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 285A / *Operational Medicine Research & Development (Budgeted) (AF)*

E. Performance Metrics

Individual initiatives are measured through a quarterly annual project performance reporting system and program management review process -- performance is measured against standardized criteria for cost, schedule and performance (technical objectives) and key performance parameters. Variances, deviations and/or breaches in key areas are reviewed and a decision is rendered on any adjustments through a formalized process of S&T governance.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 307B / *Force Health Protection, Advanced Diagnostics/Therapeutics Research & Development (Budgeted) (AF)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
307B: *Force Health Protection, Advanced Diagnostics/ Therapeutics Research & Development (Budgeted) (AF)*	14.335	0.393	15.353	12.558	-	12.558	14.173	17.653	19.333	19.700	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

This project area seeks to deliver an improved Force Health Protection capability across the full spectrum of operations with research that prevents injury/illness through improved identification and control of health risks. Under Force Health Protection, sub-project areas include: Directed Energy, Occupational and Environmental Health, and Advanced Diagnostics/Therapeutics. Research in the Directed Energy (DE) sub-project area seeks to develop technologies to "detect to warn" and "detect to protect" AF operators such that they can take appropriate actions to prevent or minimize exposure leading to adverse health effects. Research in the Occupational and Environmental Health (OEH) sub-project area involves the assessment and implementation of innovative new technologies that not only give Air Force Medical Service personnel battlefield situational awareness of Occupational and Environmental Health Hazards, but which also enables effective surveillance, detection and mitigation. Other OEH areas of interest include infectious disease and food and water surveillance. Advanced Diagnostics/Therapeutics research sub-project areas include Personalized Medicine/Genomic Medicine. The Personalized Medicine/Genomic Medicine sub-project area supports the development of systems advancing the delivery of 'Omic-informed personalized medicine and emphasizes targeted prevention, diagnosis, and treatment.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Force Health Protection, Advanced Diagnostics/Therapeutics Research & Development (Budgeted) (Air Force)	0.393	15.353	12.558
Description: This project area seeks to deliver an improved Force Health Protection capability across the full spectrum of operations with research that prevents injury/illness through improved identification and control of health risks. Under Force Health Protection, sub-project areas include: Directed Energy, Occupational and Environmental Health, and Advanced Diagnostics/Therapeutics. Research in the Directed Energy (DE) sub-project area seeks to develop technologies to "detect to warn" and "detect to protect" AF operators such that they can take appropriate actions to prevent or minimize exposure leading to adverse health effects. Research in the Occupational and Environmental Health (OEH) sub-project area involves the assessment and implementation of innovative new technologies that not only give Air Force Medical Service personnel battlefield situational awareness of Occupational and Environmental Health Hazards, but which also enables effective surveillance, detection and mitigation. Other OEH areas of interest include infectious disease and food and water surveillance. Advanced Diagnostics/ Therapeutics research sub-project areas include Personalized Medicine/Genomic Medicine. The Personalized Medicine/Genomic Medicine sub-project area supports the development of systems advancing the delivery of 'Omic-informed personalized medicine and emphasizes targeted prevention, diagnosis, and treatment.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 307B / *Force Health Protection, Advanced Diagnostics/Therapeutics Research & Development (Budgeted) (AF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015

FY 2013 Accomplishments:

Completed follow-on studies assessing the relationship between inhalation exposure to alternative jet fuels and noise. Completed the nanomaterial exposure chamber prototype, test scenarios for testing occupational airborne exposures. Used the panel of proteins identified in laser exposure studies to characterize retinal laser injuries. Expanded study of high-powered microwave exposures to establish dose-response relationships. Furthered the evaluation of foreign made, clinical, lasers to validate that the devices meet U.S. standards for lasers. Performed field testing of smaller/more capable sensors for remote environmental and physiological monitoring. Continued to evaluate personal cooling technologies that can prevent heat stress in extreme environments in field conditions. Completed development of technology and methods to analyze soil samples for radionuclide presence and transition to AF Radiologic Assessment Team, whose mission is DoD-unique. Proceeded with the development of a compact, insulated, leak-proof, laboratory-approved transport system for shipping food samples from remote locations to the laboratory. Continued research to develop miniaturized sensors to identify hypoxic/toxic aircrew environments. Completed enrollment of 2000 AFMS participants in the PC2-Z Clinical Utility Study. Initiated 'omics research studies on genetic risk testing and health coaching, statin pharmacogenomics and epigenetic biomarkers of stress at high altitude. Survey of AFMS personnel on genomics education and the application of genetic testing to clinical care conducted. Completion of charter for the Precision Care Advisory Panel (PCAP), a joint service committee to provide service-specific operational and policy guidance for the implementation of personalized medicine within the DoD.

FY 2014 Plans:

Develop a retinal injury atlas database for use by clinicians, and further apply data to perform a bioinformatics-based analysis of retinal injury treatment alternatives. Continue the development of prototype devices to detect and quantify lasers used to illuminate aircraft and qualify the health threat of laser illumination to aircrew. Integrate the health risk assessments produced from the prototype devices to locate laser energy sources into command and control. Work with MAJCOMS to test smaller/ more capable sensors for remote environmental and physiological monitoring in various operational settings. Apply smaller/ more capable, autonomous, field deployable, sensors to enable data transfer. Test miniaturized sensors to identify hypoxic/toxic aircrew. Initiate the research and development for the integration and demonstration of advanced medical, physiological status sensors, and exposure sensors technologies in a laboratory environment to prepare them for aircraft integration. Complete the development of a compact, insulated, leak-proof, laboratory-approved transport system for shipping food samples from remote locations to the laboratory. Finish the research to develop miniaturized sensors to identify hypoxic/toxic aircrew environments. Continue the study of high-powered microwave exposures to establish dose-response relationships. Complete the development of prototype devices to detect and quantify lasers used to illuminate aircraft and qualify the health threat to aircrew. Test these sensors on fixed wing and rotor wing aircraft in operational like environments. Further the evaluation of foreign made, clinical, lasers to validate that the devices meet U.S. standards for lasers. Perform field testing of smaller/more capable sensors for remote environmental and physiological monitoring. Proposed expansion of Genomic Studies to include analysis of conditions

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 307B / *Force Health Protection, Advanced Diagnostics/Therapeutics Research & Development (Budgeted) (AF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
with operational importance, including obesity and insomnia. Analysis of genomics survey data to identify gaps in genomic education, and development of educational programs to correct these gaps. Utilization of patient modeling algorithms to identify pharmacogenomic interventions that can improve patient health and reduce healthcare costs. Analysis of methodologies and challenges associated with the establishment of a genome data repository for future implementation of genomic medicine. Further participation in the National Human Genome Institute eMERGE Network through pharmacogenomic research projects. ***FY 2015 Plans:*** Complete the development of a retinal injury atlas database for use by clinicians, and further apply data to perform a bioinformatics-based analysis of retinal injury treatment alternatives. Complete the development of prototype devices to detect and quantify lasers used to illuminate aircraft and qualify the health threat of laser illumination to aircrew. Work with MAJCOMS to test smaller/more capable sensors for remote environmental and physiological monitoring in various operational settings. Apply smaller/more capable, autonomous, field deployable, sensors to enable data transfer. Complete the evaluation of and test of miniaturized sensors to identify hypoxic/toxic aircrew. Continue the research and development for the integration and demonstration of advanced medical, physiological status sensors, and exposure sensors technologies in a laboratory environment and conduct initial testing for integration aboard aircraft. Continued support for the Clinical Utility Study to include initial analysis of impact of genomic risk data on study participants. Analysis of recruited cohorts for diseases and conditions of operational importance. Implementation of genomic education program at test facility to measure impact of education on genetic test utilization, clinical care, and patient outcomes. Pharmacogenomic demonstration projects to test the impact on patient health and healthcare costs. Investigation of methodologies and requirements for bioinformatics tools and processes needed for the integration of genomic data into clinical workflow.			
Accomplishments/Planned Programs Subtotals	0.393	15.353	12.558

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Broad Area Announcement (BAA) and Intramural calls for proposal are used to award initiatives in this program and project following determinations of scientific and technical merit, validation of need, prioritization, selection and any necessary legal and/or regulatory approvals (IRB, etc)

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 307B / *Force Health Protection, Advanced Diagnostics/Therapeutics Research & Development (Budgeted) (AF)*

E. Performance Metrics

Individual initiatives are measured through a quarterly annual project performance reporting system and program management review process -- performance is measured against standardized criteria for cost, schedule and performance (technical objectives) and key performance parameters. Variances, deviations and/or breaches in key areas are reviewed and a decision is rendered on any adjustments through a formalized process of S&T governance.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 308B / *Expeditionary Medicine Research & Development (Budgeted) (AF)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
308B: *Expeditionary Medicine Research & Development (Budgeted) (AF)*	2.796	0.051	4.769	4.699	-	4.699	4.185	4.159	4.554	4.641	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

This project area identifies cutting edge techniques and technologies that can be employed by AF medics during contingency operations. Sub-project areas include: Expeditionary Logistics and Expeditionary Casualty Care. Expeditionary Logistics seeks to develop/validate novel procedures, materials, techniques, and tools to reduce size and weight, optimize power requirements, and minimize logistics footprint associated with expeditionary operations. It also examines ways to standardize equipment and supplies used by medical response teams because of the increasing number of missions that find teams from different countries working together. Expeditionary Casualty Care focuses on optimizing existing and developing new casualty care tools and techniques, improving methods and techniques for remote monitoring and triage systems, identifying and mitigating issues related to casualty care in an expeditionary setting, and validation of best-fit technologies in casualty care missions.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Expeditionary Medicine Research & Development (Air Force)	0.051	4.769	4.699

Description: This project area identifies cutting edge techniques and technologies that can be employed by AF medics during contingency operations. Sub-project areas include: Expeditionary Logistics and Expeditionary Casualty Care. Expeditionary Logistics seeks to develop/validate novel procedures, materials, techniques, and tools to reduce size and weight, optimize power requirements, and minimize logistics footprint associated with expeditionary operations. It also examines ways to standardize equipment and supplies used by medical response teams because of the increasing number of missions that find teams from different countries working together. Expeditionary Casualty Care focuses on optimizing existing and developing new casualty care tools and techniques, improving methods and techniques for remote monitoring and triage systems, identifying and mitigating issues related to casualty care in an expeditionary setting, and validation of best-fit technologies in casualty care missions.

FY 2013 Accomplishments:

Completed the FDA approval process for the Trauma Specific Vascular Injury Shunt. Applied predictive algorithms for the continuous non-invasive monitoring of patient status in order to predict actionable interventions. Evaluated clinical utility of prototype laser device for hemorrhage control and tissue cutting and archived results for future inquiries. Transitioned Virtual Medical Trainer (09) software platform for preparing leaders and decision makers to hone communication and planning skills for interagency disaster response efforts. Began research on predicting blood needs using pre-hospital vital signs, and novel

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 308B / *Expeditionary Medicine Research & Development (Budgeted) (AF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
techniques for infection control of traumatic wounds to include a bioelectric dressing and topical agent for antibiotic resistant bacteria. ***FY 2014 Plans:*** Transition the Trauma Specific Vascular Injury Shunt device, and proceed to fielding and procurement. Initiate research on therapeutic drugs given by first responders to slow body functions providing more time to transfer of seriously wounded to definitive care. Continue research on a novel technique for infection control of traumatic wounds, predicting blood needs using pre-hospital vital signs, and hemorrhagic shock resuscitation. Pursue additional research to mature the multi-channel negative pressure wound treatment system and continue to address advanced development issues. Continue research addressing needs related to Expeditionary Casualty Care and Expeditionary Logistics ***FY 2015 Plans:*** Build on ongoing work with concentration on therapeutic interventions to sustain life through transfer to definitive care. Continue research addressing needs related to Expeditionary Casualty Care and Expeditionary Logistics.			
Accomplishments/Planned Programs Subtotals	0.051	4.769	4.699

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Broad Area Announcement (BAA) and Intramural calls for proposal are used to award initiatives in this program and project following determinations of scientific and technical merit, validation of need, prioritization, selection and any necessary legal and/or regulatory approvals (IRB, etc).

E. Performance Metrics

Individual initiatives are measured through a quarterly annual project performance reporting system and program management review process -- performance is measured against standardized criteria for cost, schedule and performance (technical objectives) and key performance parameters. Variances, deviations and/or breaches in key areas are reviewed and a decision is rendered on any adjustments through a formalized process of S&T governance.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 309A / *Regenerative Medicine (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
309A: *Regenerative Medicine (USUHS)*	6.877	-	7.294	9.190	-	9.190	9.489	9.649	9.823	7.945	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

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 National Military Medical Center.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Regenerative Medicine (USUHS)	-	7.294	9.190

Description: 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 National Military Medical Center. The CNRM has established 11 research cores and funded over 100 research projects.

FY 2013 Accomplishments:

CNRM accomplish key objectives in FY13:

• Under the Acute Studies Core, collaborative agreements were executed with VCU and UMD to expand acute patient enrollment at local area sites with imaging.

• Advanced neuroimaging capabilities, including: acquisition of simultaneous human MRI and PET, improving diffusion imaging for clinical requirements, testing novel PET ligands for inflammation and neurodegeneration. The CNRM Siemens Biograph mMR System was the second installed in a U.S. clinical setting and the first to scan a human patient using simultaneous MRI and PET. Two hundred and forty three subjects have been enrolled.

• The Translational Imaging core continues to develop novel scanning protocols for rodent microPET, microCT, and 7T MR, especially as relevant to specialized needs for TBI pathologies and with consideration of comparison with the human scanning applications.

• The Pre-clinical Models Core continues to be used heavily. Development of a state-of-the-art blast facility for animal model testing at USU has been initiated and anticipated to be fully operational fall 2014.

• State-of-the-art neuropathological center established under Dr. Dan Perl with infrastructure for brain specimen acquisition, evaluation, storage, and distribution. This brain repository is the first dedicated to military service members.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 309A / *Regenerative Medicine (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
• The Informatics core has implemented the TBI clinical database with policies for submission and sharing across CNRM investigators and institutions (USU, WRNMMC, and NIH) aligned with the developing Federal Interagency TBI Research database. • The Image Processing Core has nearly completed implementing a database platform for managing the CNRM Imaging Repository with integration of the database with the Informatics database addressed following initial deployment. • Clinical studies have explored inflammation and neurodegeneration biomarkers, including auto-antibodies that persist in blood and allow identification of transient responses to CNS damage. • Pre-clinical studies across multiple TBI models are identifying mechanisms of CNS damage and repair, including molecular and cellular substrates of neuroregeneration and neuroplasticity. The range of TBI models is particularly designed to address the spectrum of injury experienced by military service members. • To date, CNRM has published over 130 peer-reviewed publications. In addition, CNRM researchers have presented at numerous national and international conferences. CNRM received 24 proposals in response to a FY13 proposal call. After scientific review and administrative approval, 10 two-year projects were funded in FY13. CNRM approved an additional 3 human use protocols so far in FY13. FY13 efforts toward the next expected research proposal opportunity had to be put on hold due to loss of all CNRM FY13 RDTE funding.			
FY 2014 Plans: CNRM objectives include: (1) Continue interdisciplinary, collaborative studies that bring together expertise across USU, WRNMMC, and intramural NIH to address the highest priority TBI research in diagnosis through treatment and recovery as relevant to military service members; (2) Continue operational capability of all Cores to provide efficient research infrastructure with high quality resources and technical expertise; (3) Fund start-up research of one new USU Radiology faculty member to maintain translational neuroimaging capability; (4) Define focus areas of next research stage and best funding format for those directions, optimize research teams, and support new research projects pending availability of FY14-15 funding; (5) Disseminate findings of CNRM basic, translational, and clinical research; (6) Host internal CNRM data discussions to foster cross-fertilization of expertise and innovative development across basic, translational, and clinical research; (7) Host annual research symposium to foster interaction between CNRM investigators and other local research organizations; (8) Support open data access to completed clinical studies to qualified federal and academic investigators; (9) Provide human brain and biofluids specimens for use in approved research protocols within CNRM and to other qualified federal and academic investigators; (10) Partner with other funding agencies and commercial entities to advance translation of CNRM research.			
FY 2015 Plans: The MCNCoE has been merged in the CNRM beginning in FY 2015 and the CNRM will absorb the research work of the MCNCoE. CNRM objectives include: (1) Continue interdisciplinary, collaborative studies that bring together expertise across USU, WRNMMC, and intramural NIH to address the highest priority TBI research in diagnosis through treatment and recovery as			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 309A / *Regenerative Medicine (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
relevant to military service members; (2) Continue operational capability of all Cores to provide efficient research infrastructure with high quality resources and technical expertise; (3)Fund start-up research of one new USU Radiology faculty member to maintain translational neuroimaging capability; (4) Define focus areas of next research stage and best funding format for those directions, optimize research teams, and support new research projects pending availability of FY14-15 funding; (5) Disseminate findings of CNRM basic, translational, and clinical research; (6) Host internal CNRM data discussions to foster cross-fertilization of expertise and innovative development across basic, translational, and clinical research; (7) Host annual research symposium to foster interaction between CNRM investigators and other local research organizations; (8) Support open data access to completed clinical studies to qualified federal and academic investigators; (9) Provide human brain and biofluids specimens for use in approved research protocols within CNRM and to other qualified federal and academic investigators; (10) Partner with other funding agencies and commercial entities to advance translation of CNRM research.			
Accomplishments/Planned Programs Subtotals	-	7.294	9.190

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0806721HP: *Uniformed Services University of the Health Sciences*	8.330	8.755	9.022	-	9.022	9.293	9.395	9.555	9.717	Continuing	Continuing

Remarks

FY 2013 Program Decremented during Sequestration (-$0.165 million)

D. Acquisition Strategy

N/A

E. Performance Metrics

Center for Neuroscience and Regenerative Medicine: In FY13 through FY15, identify, design protocols, perform scientific and program reviews, and conduct research in Clinical Core activities such as Phenotyping, Imaging and Imaging Analysis, to aid in patient diagnosis and evaluation.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 373A / *GDF - Medical Technology Development*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
373A: *GDF - Medical Technology Development*	48.595	79.544	145.961	113.048	-	113.048	116.775	134.176	149.232	162.193	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force - Medical Technology Development provides funds for promising candidate solutions that are selected for initial safety and effectiveness testing in animal studies and/or small-scale human clinical trials regulated by the US Food and Drug Administration 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, and the strategy and initiatives described in the Quadrennial Defense Review. 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 (DHP) Research Development Test and Evaluation (RDT&E) funding. Research supported by this PE includes hemorrhage (bleeding) control, resuscitation, blood products, forward surgical and intensive critical care, en route care, military medical photonics, diagnosis and treatment of brain injury, environmental health and performance, physiological and psychological health, injury prevention and reduction, medical simulation and training, health informatics, and rehabilitation.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: GDF – Medical Technology Development	79.544	145.961	113.048

Description: Funds provide for the development of medical technology candidate solutions and components of early prototype systems for test and evaluation. Promising drug and vaccine candidates, knowledge products, and medical devices and technologies are selected for initial safety and effectiveness testing in small scale human clinical trials.

FY 2013 Accomplishments:

Medical training and health information sciences efforts improved healthcare access, availability, continuity, cost effectiveness, and quality. Specific efforts focused on research investigating the utility of augmented reality (feedback through visual displays or sense of touch) as military healthcare personnel training tools, particularly current training techniques versus augmented reality methods. Efforts included out-patient, home rehabilitation and educational simulation technologies for wounded Service members. Health Information Technology efforts were focused on advancing analytics through the exploration of clinical decision support within nursing.

Military infectious diseases research supported multi-year first-in-human initial safety clinical studies and expanded safety and initial effectiveness clinical studies in antimicrobial countermeasures for antibacterial and anti-biofilm agents. Clinical studies for

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 373A / *GDF - Medical Technology Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
biomarker, multi-drug resistant organisms (MDRO) detection, and diagnostic assay technologies for wound infection prevention and management were started during FY11/12 and supported in FY13. Military operational medicine efforts focused on: validation of dose response curves for noise induced hearing loss, use of animal models to determine protective capabilities within the inner ear using antioxidants and determine the most effective doses and maximum time delays to prevent noise-induced hearing loss. This information will result in significant reductions in noise-related compensation claims to the Department of Veterans Affairs and facilitate the return-to-duty for injured Warfighters. Additional efforts focused on: performance validation of the surface-mounted clay add-on device using live-fire tests of military-grade armor systems providing the first biomedically valid behind-body-armor design standard as a replacement to the current Department of Justice standard. This will allow equipment developers to design body armor appropriate to the specific needs of each region of the body. Other efforts entailed: (1) conducting human clinical trials of the Hydration Status Monitor (a device to monitor fluid intake and electrolyte imbalance) for diagnostic and biological testing; (2) field studies to determine the effect of vitamin D and calcium supplements on nutritional status of Warfighters leading to improved bone health and mitigating the potential for bone stress fractures; and (3) validation of constructs of Warfighters performance, mental strength and psychological well-being using current psychological assessment tools providing a validated portfolio of self-reporting instruments capable of assessing various psychological attributes of military personnel, thereby enhancing psychological resilience. Combat casualty care research pursued successful studies, from FY11-13, such as the study of enhanced oxygen delivery in acute spinal cord injury, the plasma volume expander, red blood cell storage research and started technology development of platelet-derived agents to stop bleeding and neuromodulation (a treatment that delivers either electricity or drugs to nerves in order to change their activity) for the repair of traumatic injuries to the brain. Due to sequestration, a program announcement in the areas of en route care and forward surgical and intensive battlefield care was deferred. Clinical and rehabilitative medicine advanced studies in neuromusculoskeletal (system of nerves, muscles, and bones that enable movement) injury rehabilitation, pain management, and rehabilitation after traumatic injury. Initiated studies to support development and preclinical and pilot/early-phase clinical evaluations of candidate technologies for restoration and rehabilitation strategies and medical products. Specific focus areas included (1) neuromusculoskeletal injury rehabilitation strategies and devices, prosthetics (artificial device that replaces a missing body part), and the prevention of heterotopic ossification (bone formation in soft tissue following injury); (2) novel therapeutics and devices for pain management; (3) regenerative medicine-based approaches for limb and digit salvage, craniomaxillofacial (skull, face and jaw) reconstruction, scarless wound healing, burn repair, genitourinary (genital and urinary organs) restoration and addressing compartment syndrome (muscle, nerve and vascular			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 373A / *GDF - Medical Technology Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015

damage due to swelling post-injury); and (4) restoration and rehabilitation of sensory system injury, including vision, hearing and balance injury and dysfunction. Sensory system efforts to be initiated in FY13 were postponed to FY14 due to sequestration.

FY 2014 Plans:

Medical training and health information sciences research efforts are working in two primary research portfolios: Medical Simulation and Training, and Health Informatics and Information Technology. Medical simulation and training focus is on research opportunities identified by the Combat Casualty Training Consortium (CCTC), which is identifying potential gaps where simulation technology can be utilized to support combat medic training and has the impact of reducing and refining live-tissue training. Additional emphasis is being placed on the technologies to teach and train effective team communication. The concept of an open-source tissue model for developers and end-users to facilitate cohesive content delivery for manikins or virtual models is in progress. The medical practice initiative efforts are aimed at understanding healthcare personnel skill decay through improved team training and its correlation with skill. Health informatics and information technology conducts research on risk reduction within the Military Health System to identify ways to reduce potential near- and long-term cost of information technology and systems, as well as the transition of a joint Department of Veterans Affairs (VA) and DoD integrated Electronic Health Record (iEHR). Clinical decision support exploration within nursing continues within the portfolio.

The military infectious diseases research program is funding one multi-year, clinical study for development of an antibacterial drug against multiple drug resistant bacteria in antimicrobial countermeasures; one host/pathogen biomarker project in wound infection prevention and management for detection of bacterial infection in wounds; and one diagnostic project in wound infection prevention and management for the detection of bacterial infections in wounds.

Military operational medicine research will be continuing medical technology development efforts initiated in FY13 in nutrition and dietary supplements, Warfighter performance and sustainment in extreme environments (such as extreme heat, cold, or altitude), establishment of return to duty/medical standards criteria, blast injury models and performance standards for protections systems, diagnostics and metrics for hearing loss and protection, alcohol and substance abuse, diagnosis and treatment of deployment-related psychological health problems, diagnosis and treatment of PTSD, military family and Warfighter resilience, suicide prevention, pulmonary health (pertaining to the lungs) in the deployed environment, and blast exposure during breaching (process used to force open closed and/or locked doors). The Military Operational Medicine Joint Program Committee will be issuing program announcements with topics in the areas of physiological health, injury prevention and reduction, psychological health, and environmental health and protection.

Combat casualty care research is pursuing successful studies from FY12 and FY13, such as the study of enhanced oxygen delivery in acute spinal cord injury, the plasma volume expander, red blood cell storage research, platelet-derived agents to stop bleeding and neuromodulation (a treatment that delivers either electricity or drugs to nerves in order to change their activity), and

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 373A / *GDF - Medical Technology Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
conducting technology development of agents to improve resuscitation after severe bleeding, foams to stop internal bleeding, and real-time, physiologic monitoring across the battle space. Clinical and rehabilitative medicine will be advancing studies in neuromusculoskeletal injury rehabilitation, pain management, and sensory system restoration and rehabilitation after traumatic injury. Clinical and rehabilitative medicine will be continuing studies started in FY13 to support development and preclinical and pilot/early phase clinical evaluations of candidate technologies for restoration and rehabilitation strategies and medical products. Specific focus areas include: neuromusculoskeletal (system of nerves, muscles, and bones that enable movement) injury rehabilitation strategies and devices; prosthetics (artificial device that replaces a missing body part); neural interfaces (electrodes wired into the brain) and the prevention of heterotopic ossification (bone formation in soft tissue following injury); novel therapeutics and devices for pain management; regenerative medicine-based approaches for limb (extremities) and digit (fingers, thumbs and toes)salvage; craniomaxillofacial (skull, face and jaw) reconstruction; scarless wound healing; burn repair; genitourinary (genital and urinary organs) restoration; and restoration and rehabilitation of sensory system injury, including vision, hearing and balance injury and dysfunction. ***FY 2015 Plans:*** Medical simulation and training efforts will augment the Combat Casualty Training Initiative and build upon the Advanced Modular Manikin (AMM) platform core by researching interchangeable peripherals that can be optimized for specific training needs. Research will be targeted towards building an open source tissue model and virtual reality resources that will be open to developers and end-users, allowing them to focus on content creation into a variety of simulation system tools. Medical Simulation will support research to improve the realism of virtual standardized patients (avatars) used for high volume scenario rehearsal, through improved artificial intelligence and realistic body language within a medical context. Medical simulation will research effective ways to interface with technology through gestures or facial expressions. With the emergence of the Defense Health Agency (DHA) health informatics and health information technology research will move to PE 0604110 to emphasize transition to advanced development. Military infectious diseases research will have no new starts in FY15 but will continue to support projects started in FY14. Within antimicrobial countermeasures, a first-in-human study for development of an antibacterial drug against multiple drug resistant bacteria will complete and submit an Investigational New Drug Application to the Food and Drug Administration (FDA). The wound infection prevention and management host/pathogen biomarker project for detection of bacterial infection in wounds and diagnostic project for the detection of bacterial infections in wounds will complete laboratory studies and initial animal studies to confirm ability and accuracy to detect. Military operational medicine research will support medical technology development efforts initiated in FY13 and FY14 to: establish and validate guidelines for nutrition and dietary supplements; improve Warfighter performance and sustainment in			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 373A / *GDF - Medical Technology Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
extreme environments (such as extreme heat, cold, or altitude); establish return-to-duty/medical standards criteria; validate blast injury models and performance standards for protections systems; develop diagnostics and metrics for hearing loss and protection; conduct clinical trials to prevent alcohol and substance abuse; improve diagnosis and treatment of deployment-related psychological health problems; develop improved diagnostics and treatments for post-traumatic stress disorder (PTSD); conduct clinical trials to enhance military family and Warfighter resilience; conduct clinical trials to enhance suicide prevention; establish and validate guidelines for pulmonary health in the deployed environment; and develop and validate guidelines to mitigate blast exposure during breaching. Program announcements will be forthcoming with topics in the areas of physiological health, injury prevention and reduction, psychological health, and environmental health and protection. Combat casualty care research will pursue successful studies from FY13 and FY14, such as clinical assessment of new hemostatic agents (products that stop bleeding) that can control severe internal bleeding and be administered by first responders at or near the point of injury; development of multiple new TBI diagnostic approaches that when used together provide a more comprehensive diagnosis than what is currently available; development of cell therapies for lung injury; development of military medical photonics; and research to support development of a virtual intensive care unit (ICU) linking patient movement and medical support providers at all levels within the theater of operations. Clinical and rehabilitative medicine will transition current efforts and down-select products to advanced development for neuromusculoskeletal (system of nerves, muscles, and bones that enable movement), injury rehabilitation, pain management, regenerative medicine, and sensory system restoration and rehabilitation after traumatic injury. Clinical and rehabilitative medicine will continue to support development of preclinical and pilot/early-phase clinical evaluations of candidate technologies for restoration and rehabilitation strategies and medical products. Specific focus areas will include: neuromusculoskeletal injury rehabilitation strategies and devices; prosthetics; (artificial device that replaces a missing body part); orthotics (devices used to support or supplement a weakened joint or limb) neural interfaces (invasive and non-invasive methods of using the brain and/or nerves in the arms and legs for device control and the prevention and treatment of heterotopic ossification (bone formation in soft tissue following injury); novel therapeutics and devices for pain management; regenerative medicine-based approaches for limb and digit salvage; craniomaxillofacial (skull, face and jaw) reconstruction; scarless wound healing; repair of skin injury resulting from burns; composite tissue allotransplantation (tissue/organ transplantation between genetically different individuals) and associated immune system modulation technologies; genitourinary (genital and urinary organs) restoration; and restoration and rehabilitation of sensory system injury, including vision, hearing and balance injury and dysfunction.			
Accomplishments/Planned Programs Subtotals	79.544	145.961	113.048

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 373A / *GDF - Medical Technology Development*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

Mature and demonstrate safety and effectiveness of medical procedures, medical devices, and drug and vaccine candidates intended to prevent or minimize effects from battlefield injuries, diseases, and extreme or hazardous environments. Milestone B packages will be developed to transition promising products into advanced development.

E. Performance Metrics

Principal investigators will participate in In-Progress Reviews, DHP-sponsored review and analysis meetings, submit quarterly and annual status reports, and are subjected to Program Office and/or Program Sponsor Representative progress reviews to ensure that milestones are being met and deliverables will be transitioned on schedule. The benchmark performance metric for transition of research conducted with medical technology development funding will be the attainment of maturity level that is typical of Technology Readiness Level 6 or the equivalent for knowledge products.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 378A / *CoE-Breast Cancer Center of Excellence (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
378A: *CoE-Breast Cancer Center of Excellence (Army)*	9.722	3.355	10.338	8.664	-	8.664	7.299	5.709	4.068	1.777	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

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, leveraging high-throughput molecular biology technology and our unique clinically well-characterized tissue repository with advances in biomedical informatics leading to hypothesis-generating discoveries that are then tested in hypothesis-driven experiments. The objective of this research is to reduce the incidence, morbidity (illness), and mortality (death) of breast diseases and breast cancer among all military beneficiaries.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Breast Cancer Center of Excellence	3.355	10.338	8.664
Description: Provides a multidisciplinary approach as the standard of care for treating breast diseases and breast cancer.			
FY 2013 Accomplishments: The Breast Cancer CoE, also referred to as the Clinical Breast Care Project (CBCP), enrolled subjects seen at the Breast Translational Research Center in the core CBCP protocols. The CBCP acquired specimens according to approved research protocols, and conducted analyses that included but was not limited to: risk factors for developing breast cancer, effectiveness of various modalities of treatment, and actual risk of developing cancer. The CBCP enhanced the acquisition and banking of breast tissue, lymph nodes, serum/plasma and other blood derivatives from informed and consented donors to be the foundation for their translational research program. Initiatives within the translational research program included generation of a complete genomic DNA sequence from up to 60 breast cancer cases and utilization of antibody tissue staining and analysis to generate clinically relevant profiles of breast tumors to better stratify the disease in terms of prognosis and treatment options. The Biomedical Informatics Group supported the research activities of the Center as well as carried out research into new algorithms and methods to improve the detection and treatment of breast cancer.			
FY 2014 Plans: In FY14, the Breast Cancer CoE (Army), also referred to as the Clinical Breast Care Project (CBCP), at Walter Reed National Military Medical Center (WRNMMC) Bethesda is continuing to accrue subjects annually to the core CBCP protocols. The CBCP is continuing to acquire, through consented protocol, specimens (normal and abnormal breast tissues and tumors, lymph nodes, metastatic (spread of a cancer from one organ or part to another non-adjacent organ or part) deposits, blood and its components, bone marrow) annually from subjects with all types of breast diseases and cancer. The repository is continuing to be utilized			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 378A / *CoE-Breast Cancer Center of Excellence (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
as the basis for all molecular analyses in CBCP labs, as outlined in the CBCP Core Protocols allowing for global expression analysis of the DNA, RNA, and protein features and as the basis for intramural and extramural collaborations for secondary usage research. CBCP is performing whole-genome DNA sequencing on DNA from 60 cases of breast cancer; continuing the development of and support of a robust laboratory information management system to ensure proper tracking of data acquisition and a clinically relevant and laboratory research-linked prospective, database to support translational research and ultimately support physician decision making; continuing development of an analytical system for integrative data analysis and mining, and further refining a breast knowledge base to support research activities in CBCP; utilizing Clinical Laboratory Workflow System as the data analysis tool and integrating Armed Forces Health Longitudinal Technology Application (AHLTA) data from the military's main electronic medical record; identifying research subjects at high-risk for development of breast cancer, and employing risk reduction strategies; completing genomic and proteomic analysis of samples collected at various developmental stages of breast cancer; and is presenting findings in peer-reviewed publications and at national meetings. ***FY 2015 Plans:*** The Clinical Breast Care Project will continue performing whole genome DNA sequencing on DNA from cases of breast cancer; continue development of and support of a robust laboratory information management system to ensure proper tracking of data acquisition and a clinically relevant and laboratory research-linked prospective, database to support translational research and ultimately support physician decision making; continue development of an analytical system for integrative data analysis and mining, and further refine a breast knowledge base to support clinical and research activities in the Breast Cancer Center of Excellence; utilize Clinical Laboratory Workflow System as the data analysis tool and integrated Armed Forces Health Longitudinal Technology Application (AHLTA) data from the military's main electronic medical record; identify and counsel patients at high risk for development of breast cancer, and employ risk reduction strategies; perform targeted research by conducting DNA and protein analysis of Stages I, II, and III breast cancer, cancer found in the breast ducts and lobules, and pre-malignant breast lesions; and will present findings in peer-reviewed publications and at national meetings.			
Accomplishments/Planned Programs Subtotals	3.355	10.338	8.664

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Disseminate medical knowledge products resulting from research and development through articles in peer-reviewed journals, revised clinical practice guidelines, incorporation into training curriculum throughout the Military Health System, and other applicable means.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 378A / *CoE-Breast Cancer Center of Excellence (Army)*

E. Performance Metrics

Performance is judged on the number of active protocols, the number of articles that appear in peer-reviewed journals, and the number of contact hours in support of the training of residents and fellows in the Military Health System.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 379A / *CoE-Gynecological Cancer Center of Excellence (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
379A: *CoE-Gynecological Cancer Center of Excellence (Army)*	8.494	2.931	9.033	7.570	-	7.570	6.377	4.989	3.555	1.552	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Gynecologic Cancer Center of Excellence (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 (illness), and mortality (death) of gynecologic diseases among all military beneficiaries.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Gynecologic Cancer Center of Excellence (Army)	2.931	9.033	7.570

Description: The Gynecologic Cancer Center of Excellence 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.

FY 2013 Accomplishments:

The Gynecologic Cancer Center of Excellence extended previous studies of gynecologic cancer metastasis (spread of cancer from one organ or part to another non-adjacent organ or part) and recurrence, patient survival, drug resistance and racial disparities in cancer outcome by completing clinical assay and validation studies of the most promising biomarker panels. Molecular-based prediction models with the best sensitivity, specificity, as well as positive and negative predictive value were promoted for specific clinical indications and deployment in independent surgical and/or biopsy specimens and biofluids (biological fluids like blood, urine, breast milk, and cerebrospinal fluid). Data forthcoming from molecular studies (DNA, RNA, protein) was integrated utilizing computational biology to elucidate systems-level regulatory mechanisms underlying metastasis and recurrence in endometrial (membrane lining the uterus) cancer along with drug resistance, tumor progression, and survival in primary compared with metastatic and recurrent ovarian cancers. Approximately 600 patients with gynecologic cancer undergoing surgery for primary or recurrent disease as well as additional control patients with benign conditions undergoing a hysterectomy (surgical removal of the uterus) were enrolled on the Tissue and Data Acquisition Network (TDAN) protocol to collect various types of tumor and normal tissues, blood for extraction of DNA, RNA and microRNA, as well as serum and urine. TDAN specimens were linked with detailed clinical, treatment, outcome and life-style questionnaire data. The prospectively collected TDAN clinical specimens and epidemiologic data will be leveraged for discovery and validation studies associated with the Early Detection and Molecular Profiling Programs in FY14. Preclinical models were developed to optimize the chemopreventive (the use of agents

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 379A / *CoE-Gynecological Cancer Center of Excellence (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015

to prevent the development of cancer) activity of hormone and vitamin D strategies for deployment in clinical trials of endometrial cancer. Our therapeutics program evaluated novel vaccines in ovarian and endometrial cancer, and novel designs for tailored salvage therapy trials to direct endometrial or ovarian cancer patients with specific molecular defects/alterations to specific classes of molecular targeting agents. An intervention study was initiated to evaluate the effects of stress intervention on recurrence of disease in ovarian cancer, and to evaluate biomarker changes.

FY 2014 Plans:

The Gynecologic Cancer Center of Excellence will conduct retrospective longitudinal (observations over long periods of historical time) and prospective (observations during a current or future study period) validation studies of biomarker candidates from our previous studies of gynecologic cancer metastasis and recurrence, patient survival, drug resistance and racial disparities in cancer outcome. These investigations rely on collected specimens as well as external biospecimen (materials taken from the human body, such as blood, plasma, urine, etc., that can be used for diagnosis and analysis) collections, such as the Gynecologic Oncology Group (GOG)-249 randomized treatment trial and the Prostate, Lung, Ovarian and Colorectal (PLCO) trial. The candidates identified in our preclinical models are being evaluated in human trials as surrogates/predictors of response to progesterone/progestin and vitamin D. Hypotheses generated from systems-level integration of molecular studies are being evaluated using models of ovarian and endometrial (pertaining to the lining of the uterus) cancer. These novel hypotheses establish the framework for the next generation of molecularly targeted therapeutics and diagnostic therapy for gynecologic cancer patient management. Novel molecular candidates are being incorporated into a newly established ensemble of safety and efficacy gynecologic cancer clinical trials aimed at directing endometrial or ovarian cancer patients with specific molecular defects/alterations to tailored molecular targeting regimens, and testing new therapeutics for treatment of newly diagnosed and recurrence/refractory (resistant, unresponsive to surgery or therapy) cancer patients. The intervention trial will remain open to accrual to evaluate the effects of stress intervention on recurrence of disease in ovarian cancer, and to evaluate biomarker changes in serial biofluids (biological fluids like blood, urine, breast milk, and cerebrospinal fluid).

FY 2015 Plans:

The Gynecologic Cancer Center of Excellence will continue conducting retrospective longitudinal and prospective validation studies of biomarker candidates from our previous studies of gynecologic cancer metastasis and recurrence, patient survival, drug resistance and racial disparities in cancer outcome. These investigations will rely on collected specimens as well as external biospecimen (materials taken from the human body such as blood, plasma, urine, etc that can be used for diagnosis and analysis) collections, such as the Gynecologic Oncology Group (GOG)-249 randomized treatment trial and the Prostate, Lung, Ovarian and Colorectal (PLCO) trial. The candidates identified in preclinical models will be evaluated in human trials as surrogates/predictors of response to progesterone/progestin and vitamin D. Hypotheses generated from systems-level integration of molecular studies will be evaluated using models of ovarian and endometrial cancer. These novel hypotheses establish the framework for the next generation of molecularly targeted therapeutics and diagnostic therapy for gynecologic cancer patient management. Novel molecular candidates will be incorporated into a newly established ensemble of safety and efficacy gynecologic cancer

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 379A / *CoE-Gynecological Cancer Center of Excellence (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
clinical trials aimed at directing endometrial or ovarian cancer patients with specific molecular defects/alterations to tailored molecular targeting regimens, and testing new therapeutics for treatment of newly diagnosed and recurrence/refractory (resistant, unresponsive to surgery or therapy) cancer patients. The intervention trial will remain open to accrual to evaluate the effects of stress intervention on recurrence of disease in ovarian cancer, and to evaluate biomarker changes in serial biofluids.			
Accomplishments/Planned Programs Subtotals	2.931	9.033	7.570

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Disseminate medical knowledge products resulting from research and development through articles in peer-reviewed journals, revised clinical practice guidelines, incorporation into training curriculum throughout the Military Health System, and other applicable means.

E. Performance Metrics

Performance of the Gynecological Cancer Center of Excellence is judged on the number of active protocols, the number of articles that appear in peer-reviewed journals, and the number of contact hours in support of the training of residents and fellows in the Military Health System.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 381A / *CoE-Integrative Cardiac Health Care Center of Excellence (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
381A: *CoE-Integrative Cardiac Health Care Center of Excellence (Army)*	3.584	1.238	3.811	3.594	-	3.594	3.520	3.368	3.214	1.747	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

For the Cardiac Health Center of Excellence (Army), also known as the Integrative Cardiac Health Project (ICHP), the focus is the investigation of cutting-edge patient-centric approaches to cardiovascular disease (CVD), risk assessment and risk reduction by incorporating biomolecular (pertaining to organic molecules occurring in living organisms) research to detect CVD at an early stage, and identifying markers of increased risk for heart attack in service members. Using a systems biology outcomes research approach, ICHP characterizes relationships between CVD, other cardio-metabolic disease states and maladaptive lifestyle behavior patterns unique to service members such as pre-diabetes, stress, obesity and sleep disorders with the aim of targeting these disorders in their pre-clinical phase and achieving ideal/ optimal cardiovascular health goals outlined by the American Heart Association. ICHP's ultimate goal is to translate the evidence-based research findings for application into clinical practice in an effort to achieve the following research aims: (1) improve Force Health by better understanding the CVD risk susceptibility of military-specific populations such as Wounded Warriors through leading-edge research using novel tools and technologies, (2) investigate and create transformational models of healthcare delivery through personalized CVD prevention tracks as an adjunct to traditional care, and (3) refine individualized prevention strategies through statistical data modeling to define the most cost-effective and sustainable approaches in promoting cardiovascular health throughout the military lifecycle.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Cardiac Health Center of Excellence (Army)	1.238	3.811	3.594
Description: The focus is the investigation of cutting edge patient-centric approaches to cardiovascular disease (CVD), risk assessment and risk reduction by incorporating biomolecular research to detect CVD at an early stage, and identifying markers of increased risk for heart attack in service members.			
FY 2013 Accomplishments: The Cardiac Health Center of Excellence (Army), also known as the Integrative Cardiac Health Project (ICHP), collaborated with the Physical Medicine Department at the Walter Reed National Military Medical Center (WRNMMC) to conduct a comparative cohort study to determine comprehensive CVD risk assessment in Wounded Warriors with traumatic war amputations, the first study of its kind. In another first of its kind, ICHP performed a randomized prospective study to determine the effectiveness of the ICHP CVD risk reduction model on endothelial (blood vessel lining), diastolic (blood pressure after the contraction of the heart), and molecular functions in patients with low 10-year CVD risk but high lifetime risk for CVD. Many active duty members are unaware that they have low short-term risk but high lifetime risk. In another study, the CoE tested the feasibility of a novel finger-stick point-of-care technology and the ICHP CVD risk reduction model to generate disease maps in pre-diabetic ICHP patients			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 381A / *CoE-Integrative Cardiac Health Care Center of Excellence (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
at risk for CVD. In examining a novel scientific process, ICHP utilized a modified serum DNA amplification process in samples from the DoD serum repository. If successful, the CoE will obtain DNA from the DoD serum repository samples for future studies. This will be the first step to use this technique to identify young military members at risk for heart attack. ICHP is continuing development of a robust data management system. This enhanced integrative data collection is designed to capture a full picture of the individual to include physiological, behavioral, biochemical and molecular information. Our platform gathered an expansive number of data points that when leveraged can create new tools and refine processes to better define wellness, predict disease, empower patients, transform delivery to improve quality of life and deliver personalized CVD prevention in the military population. ICHP's vision of lifelong cardiovascular health supports the Military Health System (MHS) Strategic Plan creating value to the MHS. ***FY 2014 Plans:*** The Cardiac Health Center of Excellence (Army), also known as the Integrative Cardiac Health Project (ICHP), is continuing research studies initiated in FY12-13. Data collection from approved FY12-13 protocols is continuing and being analyzed and synthesized. ICHP is translating and communicating best practices to the services in order to augment clinical practice. Utilizing our Knowledge to Action framework, ICHP are incorporating findings from studies for new hypothesis generation and development of new protocols for FY14-18 to expand the use of point-of-care technology in the ICHP model, whole genome sequencing for early CVD detection, and investigating the use of serum biomarker maps for personalized CVD risk assessment in Wounded Warriors. ***FY 2015 Plans:*** The Cardiac Health Center of Excellence (Army), also known as the Integrative Cardiac Health Project (ICHP), will continue research studies initiated in FY13-14. Data collection from approved FY13-14 protocols will be analyzed and synthesized. ICHP will continue translating and communicating best practices to the services in order to augment clinical practice. Utilizing our Knowledge to Action framework, ICHP will continue incorporating findings from our studies for new hypothesis generation and development of new protocols for FY15-19 to expand the use of point-of-care technology in the ICHP model, whole-genome sequencing for early CVD detection, and investigating the use of serum biomarker maps for personalized CVD risk assessment in Wounded Warriors.			
Accomplishments/Planned Programs Subtotals	1.238	3.811	3.594

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 381A / *CoE-Integrative Cardiac Health Care Center of Excellence (Army)*

D. Acquisition Strategy

Disseminate medical knowledge products resulting from research and development through articles in peer reviewed journals, revised clinical practice guidelines, and training of residents and fellows in the Military Health System

E. Performance Metrics

Integrative Cardiac Health Care Center of Excellence performance is judged on high impact discoveries, development of new diagnostic and treatment strategies, identification of emerging issues of disease feature and patterns, the amount of extramural funding received, the number of active protocols, the number of articles that appear in peer reviewed journals, and the number of contact hours in support of the training of medical students, residents and post-doctoral fellows in the Military Health System.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 382A / *CoE-Pain Center of Excellence (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
382A: *CoE-Pain Center of Excellence (Army)*	2.715	0.937	2.888	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Pain Center of Excellence (Army) 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 pain has throughout the continuum of care to rehabilitation and reintegration. The Pain Center of Excellence is an integral part of the Defense and Veterans Center for Integrative Pain Management (DVCIPM) whose mission is to become a referral center that supports world-class clinical pain services, provides education on all aspects of pain management, coordinates and conducts Institutional Review Board-approved clinical research and Institutional Animal Care and Use Committee-approved basic laboratory and translational pain research, and serves as the advisory organization for developing enterprise-wide pain policy for the Military Health System. In FY15, the Pain CoE funding line is transferred from Army to USUHS.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Pain Center of Excellence (Army)	0.937	2.888	-
Description: The Pain Center of Excellence 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 pain has throughout the continuum of care to rehabilitation and reintegration.			
FY 2013 Accomplishments: The Pain Center of Excellence reviewed data collected from approved FY11-12 protocols, and the center wrote general management and/or general practice guidelines that can be utilized in treating acute and chronic pain. Findings were communicated to the tri-services as well as the Veterans Health Administration in an effort to standardize pain management across agencies. Established protocols were continued with data collection and evaluation. Proposed protocols obtained Institutional Review Board approval and began data collection.			
FY 2014 Plans: The Pain Center of Excellence members of the Defense and Veterans Center for Integrative Pain Management (DVCIPM) continues to validate major lines of effort including the Defense and Veterans Pain Rating Scale (DVPRS), Pain Assessment Screening Tool and Outcomes Registry/Patient Reported Outcome Measurement Information System (PASTOR/PROMIS), and Extension for Community Healthcare Outcomes (ECHO) programs. DVCIPM continues to explore pain management therapeutic options to develop and optimize best practice guidelines for the treatment of pain. The research program focuses on evaluation of current medications for improved pain management, clinical assimilation study of integrative medicine modalities including yoga and acupuncture, and exploration of the pathophysiology (study of functional changes associated with disease or injury)			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 382A / *CoE-Pain Center of Excellence (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
and molecular mechanisms of pain with established and new academic partners. DVCIPM continues to provide subject matter expertise, coordination, and guidance to all services and Veterans Health Administration regarding pain-related issues in support of the Pain Task Force. ***FY 2015 Plans:*** No funding programmed. Program transfered to USUHS starting in FY 2015.			
Accomplishments/Planned Programs Subtotals	0.937	2.888	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Disseminate medical knowledge products resulting from research and development through articles in peer-reviewed journals, revised clinical practice guidelines, incorporation into training curriculum throughout the Military Health System, and other applicable means.

E. Performance Metrics

Performance by the Pain Center of Excellence is judged on the number of active protocols, the number of articles that appear in peer reviewed journals, and the number of contact hours in support of the training of residents and fellows in the Military Health System.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 382B / *CoE-Pain Center of Excellence (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
382B: *CoE-Pain Center of Excellence (USUHS)*	-	-	-	2.722	-	2.722	2.823	2.871	3.247	2.810	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Pain Center of Excellence (Army) 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 pain has throughout the continuum of care to rehabilitation and reintegration. The Pain Center of Excellence is an integral part of the Defense and Veterans Center for Integrative Pain Management (DVCIPM) whose mission is to become a referral center that supports world-class clinical pain services, provides education on all aspects of pain management, coordinates and conducts Institutional Review Board-approved clinical research and Institutional Animal Care and Use Committee-approved basic laboratory and translational pain research, and serves as the advisory organization for developing enterprise-wide pain policy for the Military Health System. In FY15, the Pain CoE funding line is transferred from Army to USUHS.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Pain Center of Excellence (USUHS)	-	-	2.722

Description: The Pain Center of Excellence 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 pain has throughout the continuum of care to rehabilitation and reintegration.

FY 2013 Accomplishments:
No funding programmed.

FY 2014 Plans:
No funding programmed.

FY 2015 Plans:
The Uniformed Services University of the Health Sciences (USUHS) will assume the research work of the DVCIPM beginning in FY 2015. The Pain Center of Excellence members of the Defense and Veterans Center for Integrative Pain Management (DVCIPM) will continue to validate major lines of effort including the Defense and Veterans Pain Rating Scale (DVPRS), Pain Assessment Screening Tool and Outcomes Registry/Patient Reported Outcome Measurement Information System (PASTOR/ PROMIS), and Extension for Community Healthcare Outcomes (ECHO) programs. DVCIPM will continue to explore pain management therapeutic options to develop and optimize best practice guidelines for the treatment of pain. The research program will focus on evaluation of current medications for improved pain management, clinical assimilation study of integrative medicine modalities including yoga and acupuncture, and exploration of the pathophysiology (functional change) and molecular

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 382B / *CoE-Pain Center of Excellence (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
mechanisms of pain with established and new academic partners. DVCIPM will provide subject matter expertise, coordination, and guidance to all services and Veterans Health Administration regarding pain-related issues in support of the Pain Task Force.			
Accomplishments/Planned Programs Subtotals	-	-	2.722

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Disseminate medical knowledge products resulting from research and development through articles in peer-reviewed journals, revised clinical practice guidelines, incorporation into training curriculum throughout the Military Health System, and other applicable means.

E. Performance Metrics

Performance by the Pain Center of Excellence is judged on the number of active protocols, the number of articles that appear in peer reviewed journals, and the number of contact hours in support of the training of residents and fellows in the Military Health System.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 383A / *CoE-Prostate Cancer Center of Excellence (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
383A: *CoE-Prostate Cancer Center of Excellence (USUHS)*	7.164	6.352	8.061	6.907	-	6.907	6.260	5.456	4.628	1.887	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

For the Uniformed Services University of the Health Sciences (USUHS), the Prostate Cancer Center of Excellence (CoE), formerly a Congressional Special Interest program, the Center for Prostate Disease Research (CPDR), was chartered in 1992 to conduct basic, clinical and translational research programs to combat diseases of the prostate. The CPDR studies prostate cancer and prostate diseases in the military health care system. The program's mission is fulfilled primarily through its three principal programs- the Clinical Translational Research, the Basic Science Research and the Tri-Service Multicenter Database which includes five participating military medical centers. The CPDR has been conducting patient centric cutting-edge translational research to improve the management of all stages of prostate cancer for over 22 yrs as recognized by nearly 400 scientific publications. CPDR has also been committed to the research training of the next generation of DoD doctors and scientists (USU medical and graduate students and Walter Reed residents). Many of the trainees are now service chiefs and program directors in prestigious military and civilian medical centers.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: CoE-Prostate Cancer Center of Excellence (USUHS)	6.352	8.061	6.907

Description: The CPDR is at the forefront of cutting-edge clinical research improving diagnosis and treatment of prostate cancer involving new modalities such as, MRI guided biopsy, and evaluation of new drugs and vaccines for advanced prostate cancer. The CPDR Database continues to highlight emerging issues in prostate cancer management such as, treatment outcomes, ethnic differences and quality of life. In light of current treatment challenges with early detected prostate cancers in PSA testing era and poorly understood biology of prostate cancer, CPDR's high-impact research is focusing on cancer causing genes that will lead to better diagnostic and prognostic markers in the management of the disease. New gene discoveries are also unraveling ethnic differences of prostate cancer biology that has potential to enhance personalized medicine.

FY 2013 Accomplishments:

- A highly motivated clinical research team offers unique opportunities for translational research and innovative clinical trials in an expedient manner.
- The CPDR Clinical Research Center, within the John P. Murtha Cancer Center at Walter Reed National Military Medical Center provides state-of-the-art care to military beneficiary patients affected by prostate disease, with particular emphasis on cutting-edge clinical trials.
- The clinical center maintains a clinical trial portfolio treating all stages of prostate cancer from prevention to late stage disease including the collaboration with the NCI Medical Oncologists.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 383A / *CoE-Prostate Cancer Center of Excellence (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
• CPDR continues to lead its original discovery towards evaluations of a common defect of ERG cancer gene in prostate cancer diagnosis, prognosis and treatment. Development of the CPDR-ERG monoclonal antibody has streamlined the world-wide evaluations of the ERG oncoprotein in clinical specimens. • New ground-breaking research from CPDR has established unexpected ethnic differences of ERG frequencies between Caucasian Americans and African American patients. These results for the first time have potential to define molecular basis of ethnic differences in prostate cancer which has implications in both the fields of biomarker performance and personalized medicine. • A new CPDR initiative has led to the generation of whole-genome and transcriptome data in a matched cohort of African American and Caucasian American patients that is anticipated to enhance the understanding of genomic differences of prostate cancer between these ethnic groups. • Cancer biology evaluation of the most common prostate cancer gene ERG in transgenic mouse model has provided new insights into the mechanisms of ERG functions in prostate cancer initiation and progression. • Towards developing innovative prostate cancer diagnosis and prognosis platforms, collaborations are in progress with leading companies such as, Genomic Health, Iris Molecular Diagnostics, Berg Pharma, Biocare Medical and Exosome. • Hormonal mechanisms play central roles in prostate cancer onset of progression. CPDR has developed a new marker panel to read out the defects of hormone pathways in subsets of prostate cancers that may represent highly aggressive disease. CPDR has also made a discovery of a new pathway for androgen receptor degradation which has future potential in treatment of advanced prostate cancer. • The National Database program continues to enroll men with prostatic diseases including clinico-pathologic, demographic, and longitudinal follow-up and treatment outcomes data. • A new collaborative initiative has been established to evaluate the utility of a prognostic Oncotype DX prostate cancer panel developed by Genomic Heath. • The Biospecimen Banking and Database programs continue to enhance multi-disciplinary translational research activities at CPDR and other leading DoD and civilian medical centers. • The Integrated CPDR Information Management System has been completed that includes integration of bio-medical data, controlled biospecimen management and tracking systems. • In FY13, the Prostate Cancer CoE published 15 peer-reviewed publications and 3 invited articles. In addition, researchers at the Prostate Cancer CoE presented 6 podium presentations and 27 poster presentations at major national and international conferences. • Within the Education Program, CPDR scientific staff personnel continued the training of urology residents from WRNMMC, USU medical and graduate students, International Urologic Oncology fellows, Georgetown University medical students, CPDR postdoctoral fellows, NCI-Cancer Prevention postdoctoral fellow and CPDR Summer Interns.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 383A / *CoE-Prostate Cancer Center of Excellence (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
• Evaluate the efficacy of the newly developed MRI guided biopsy technology in the diagnosis of clinically significant prostate cancer. • Assess new FDA approved drugs and vaccines for the treatment of the metastatic disease. • Investigate minimally invasive modalities for the treatment of early detected prostate cancer. • Analyze the features of onset and progression of prostate cancer among DoD prostate disease patients in relation to ethnicity and obesity. • Complete a new collaborative study with Genomic Health towards the evaluation of early prognostic gene expression markers for differentiating indolent versus aggressive disease. • Using the CPDR ERG-MAb, continue to enhance the ERG-based stratification of prostate cancer world-wide in collaboration with Biocare Medical Inc. • Complete the evaluation of ERG oncoprotein frequency in patient populations of China, Germany, Hungary, Japan, India, Malaysia, Philippines and Switzerland. • Develop and enhance strategies to inhibit ERG-mediated oncogenesis using small molecule inhibitors, ERG-MAb and ERG vaccine. • Complete the integrated comparative evaluations of genomics and transcriptomics (expression level of RNA molecules in a given cell population) datasets of African American and Caucasian American patients. • Accelerate prostate cancer-related genome queries by acquiring high-throughput technologies to support advanced bioinformatics capabilities. • Provide solution for the unmet need of prognostic biomarkers that will differentiate between indolent and aggressive disease. Evaluate the NanoString platform towards this goal. • Enhance the CPDR discovery of male hormone signaling-based stratification of prostate cancer, conceptually similar to breast cancer. • Define new mechanisms of male hormone receptor regulation towards developing innovative therapeutic strategies. • Improve non-invasive approaches for the detection of prostate cancer in urine or blood specimens by evaluating prostate cancer antigens, as well as auto-antibodies. • Continue to enhance and transform Prostate Cancer COE database and biospecimen banks to a national center for academic and industrial collaborations to accelerate translational research			
FY 2015 Plans: • Continue to conduct long-term comparisons of efficacy, morbidity, mortality and quality-of-life impact for accepted and emerging treatments for prostate cancer to include robot assisted radical prostatectomy, external beam radiotherapy, brachytherapy, high intensity focused ultrasound, and active surveillance. Assess the impact of these treatments with or without neoadjuvant and adjuvant hormonal or other novel therapies. • Compare the features of disease onset and progression between DoD and civilian prostate cancer patient populations.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 383A / *CoE-Prostate Cancer Center of Excellence (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
• Continue focus on long-term studies of the epidemiology to include clinical progression of the disease defined by metastasis, ethnicity, obesity, quality-of-life-adjusted survival and prostate cancer specific death. • Evaluate traditional and emerging molecular marker panels for differentiating indolent versus aggressive disease for guiding treatment decisions. • Leverage the CPDR discovery of the ETS-related gene (ERG), the first major prostate cancer-causing gene identified, which is present in over half of prostate cancers in Western countries, and can be used for precision diagnosis and therapy. • Develop new molecular strategies for improving prostate cancer diagnosis and prognosis, specifically to find replacement for PSA test. • Establish the molecular bases of ethnic differences in prostate cancer biology by employing integrated comparative genomics and transcriptomics. • Develop new paradigms for the identification and treatment of highly aggressive prostate cancers based on hormone signaling defects. • Continue to evaluate cancer biology of prostate cancer relevant genes and/or proteins using transgenic and knockout mice models. • Identify molecular determinants of prostate cancer susceptibility in high-risk groups such as African Americans. • Continue to develop and maintain long-term molecular specimen resources for translational investigations at CPDR and collaborations with other institutions. • Maintain the state-of-the-art CPDR translational research infrastructure and expertise to train the next generation of DoD physicians and scientists.			
Accomplishments/Planned Programs Subtotals	6.352	8.061	6.907

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Prostate Cancer Center of Excellence: Performance is judged on high impact discoveries, development of new diagnostic and treatment strategies, identification of emerging issues of disease feature and patterns, the amount of extramural funding received, the number of active protocols, the number of articles that appear in peer reviewed journals, and the number of contact hours in support of the training of medical students, residents and post-doctoral fellows in the Military Health System.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 398A / *CoE-Neuroscience Center of Excellence (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
398A: *CoE-Neuroscience Center of Excellence (USUHS)*	1.822	-	1.926	-	-	-	-	-	-	-	-	-

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

For the Uniformed Services University of the Health Sciences (USUHS), the Military Clinical Neuroscience Center of Excellence (MCNCoE), 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 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. The MCNCoE goals include supporting neuroscience education and research endeavors at military treatment facilities across the DOD healthcare system and facilitating a network of collaborations between investigators across these facilities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: CoE-Neuroscience Center of Excellence (USUHS)	-	1.926	-

Description: The Military Clinical Neuroscience Center of Excellence (MCNCoE) 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. The MCNCoE's approach to its goals includes supporting the research potential of military treatment facilities across the DOD system as well as the national capital area, and facilitating a network of collaborations between investigators across these facilities.

FY 2013 Accomplishments:

The Neuroscience Center of Excellence funded six projects based on external peer review and AIBS scoring. Those studies are:
- Early QSART- Can it predict CRPS after traumatic peripheral nerve injury?
- Effects of caffeine and heat exposure on exercise induced creatine kinase
- An anti-inflammatory approach to diagnosis and treatment of combined PTSD and mild TBI
- Histone deacetylase (HDAC) inhibitors to rescue cognitive impairment in blast-induced mTBI
- Enhancement of endocannabinoid tone in traumatic brain injury
- Sildenafil for the treatment of cerebrovascular dysfunction during the chronic stage after traumatic brain injury.

FY 2014 Plans:

The MCNCoE will complete restructuring of its vision and mission. This restructuring began in 2013 and continues into 2014, and includes re-codifying of the governance of MCNCoE, establishing a permanent external scientific advisory board (SAB). The MCNCoE will fund new clinical research projects through a call for proposals reviewed by SAB, and enhance the capability

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 398A / *CoE-Neuroscience Center of Excellence (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
of MCNCoE to involve clinical neuroscientists across the DoD and at affiliated civilian academic centers in collaborative work with MCNCoE. Plans include involvement of national and international research leaders in the field of neurology from national capital area as well as across military healthcare system. Mission will also refocus on promoting education and training of military medical students, residents, fellows and staff in clinical neuroscience standards of care, outcome measures, and research initiatives with a focus on military-specific neurological conditions. With three ACGME accredited joint (tri-service) Military Neurology training programs in the DoD affiliated with USUHS Neurology, restructuring will include evaluating and augmenting clinical residency research opportunities in neurological disorders seen in military beneficiaries to include co-occurring conditions of special interest such as traumatic brain injury, neurodegenerative conditions, post-traumatic headaches, depression, chronic pain, epilepsy, nerve injury, post-traumatic stress disorders, and other clinical conditions that impact on full recovery. In sync with the President's call for Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative, MCNCoE is poised to leverage military neuroscience clinicians at USUHS, in the national capital area, across the DoD Military Treatment Facilities, and with MTF academic affiliates to augment the understanding of human brain function which the President has established as an “enormous mystery waiting to be unlocked” (April 2013). ***FY 2015 Plans:*** None, MCNCoE research has been merged into the CNRM beginning in FY 2015.			
Accomplishments/Planned Programs Subtotals	-	1.926	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Performance of individual PIs will be judged on the number of active protocols, the number of articles that appear in peer reviewed journals, and the amount of extramural funding received. Performance of the overall program will be also measured on the effective achievement of better communication and research collaborations between neurology researchers across the DOD system, and on the ability of the Program to affect improvements to the academic curriculum at USUHS.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 429A / *Hard Body Armor Testing (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
429A: *Hard Body Armor Testing (Army)*	0.813	0.543	-	-	-	-	-	-	-	-	-	-

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Hard Body Armor project plans to develop a surface-mounted sensor system that will add critical dynamic data to the current clay test procedure and develops human skull fracture injury criteria for focused blunt impacts to the human head. This research develops and validates a method for assessing body armor performance against blunt trauma and will be fully compatible with the current testing method. The adoption of armor and helmet design standards that estimate injury type and severity based on biomechanics will allow designers to rationally create armor and helmets that protect each body region and allow the development of standards based on true protection outcomes.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Hard Body Armor	0.543	-	-
Description: Develop a surface-mounted sensor system that will add critical dynamic data to the current clay test procedure and develops human skull fracture injury criteria for focused blunt impacts to the human head. ***FY 2013 Accomplishments:*** The Hard Body Armor project conducted validation of the performance of the surface mounted clay add-on device using live-fire tests of military grade armor systems. This will provide the first bio-medically valid behind-body-armor design standard allowing equipment developers to design body armor appropriate to the specific needs of each region of the body. Also, the Hard Body Armor project tested the probability of skull fracture in relation to measured injury metrics such as head acceleration load. The development of a body armor surface sensor working prototype was initiated. In addition, head injury prediction simulations were conducted to associate observed skull fractures with well-defined loading/injury scenarios. ***FY 2014 Plans:*** No funding is programmed. ***FY 2015 Plans:*** No funding is programmed.			
Accomplishments/Planned Programs Subtotals	0.543	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 429A / *Hard Body Armor Testing (Army)*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

Disseminate to the DoD testing community an improved biofidelic blast test manikin (model with characteristics that mimic pertinent human physical ones such as size, shape, mass)that includes the capability to measure and predict skeletal occupant injury during under body blast events in combat and transport vehicles involving a landmine or improvised explosive device.

E. Performance Metrics

Principal investigators will participate in In-Progress Reviews, DHP-sponsored review and analysis meetings, submit quarterly and annual status reports, and/or are subjected to Program Sponsor Representative progress review to ensure that milestones are being met and deliverables will be transitioned on schedule.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 431A / *Underbody Blast Testing (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
431A: *Underbody Blast Testing (Army)*	14.544	6.385	11.289	4.818	-	4.818	2.679	1.869	-	-	-	-

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

To better protect mounted warriors from the effects of underbody blast (UBB) caused by landmines or Improvised Explosive Devices (IEDs), the Underbody Blast (UBB) Testing medical research project will provide new data on the biomechanics of human skeletal response that occurs in an attack on a ground combat vehicle. The data will provide a biomedical basis for the development of a Warrior-representative blast test manikin (the Warrior Injury Assessment Manikin or WIAMan project) and the required biomedically-valid injury criteria that can be used in Title 10 Live Fire Test and Evaluation to characterize dynamic events, the risk of injury to mounted warriors, and to support acquisition decisions. This new data will also benefit the overall DOD effort in vehicle and protection technology for the UBB threat. This work is needed to overcome the limitations of the current test manikin and injury criteria which were designed for the civilian automotive industry for frontal crash testing and as such are not adequate in the combat environment. The current manikins do not represent the modern Soldier and were not designed for the vertical acceleration environment associated with UBB events. Consequently, current LFT&E crew survivability assessment methodologies are limited in their ability to predict the types and severity of injuries seen in these events. Due to this technology gap, military ground vehicles are being fielded without fully defined levels of injury risk and crew survivability for UBB events. The data produced by this project will be used to satisfy a critical need for a scientifically valid capability for analyzing the risk of injury caused by UBB.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Underbody Blast Testing	6.385	11.289	4.818
Description: Will provide an understanding of the biomechanics of skeletal injuries that occur in a combat vehicle UBB event involving a landmine or IED, and will provide the biomedical basis for the development of a Warrior-representative blast test manikin and associated biomedically-validated injury criteria that can be used to characterize dynamic events and injury risks for live-fire test and evaluation (LFT&E) crew survivability assessments and vehicle development efforts to better protect Warriors from UBB threats.			
FY 2013 Accomplishments: The Underbody Blast Testing project collected human response data in a blast environment, including whole-body kinematics (measurement of motion), biofidelity data, and injury data for a seated soldier. This included fabricating and proof testing a first-of-its-kind blast experimental facility for medical research and the associated research techniques. The research considered the effects of warrior posture, the effects of wearing personal protective equipment, and the severity of the UBB threat. Matched pair testing clearly demonstrated differences between the current manikin and actual human response. Research results were coordinated with the Armed Forces Medical Examiner System and demonstrated that the observed injuries closely matched those experienced by soldiers in theaters of operation. A report was received and the data was transitioned for use in development of			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 431A / *Underbody Blast Testing (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
the new WIAMan anthropomorphic test device, to inform plans for subsequent research, and for use in modeling and simulation studies. Research plan reviews and test readiness reviews were conducted to define and approve subsequent research for whole-bodies and within particular body regions. Initial research was conducted for the head and neck body region to gather biofidelity and injury data. In addition, a first of its kind review was held to present the medical researchers with de-identified medical images of soldier injuries caused by UBB. This data is critical to assuring that the Underbody Blast Testing project is producing data that is relevant to the military environment. ***FY 2014 Plans:*** The Underbody Blast Testing project will be focused on generating and providing medical research data needed to support the development of the WIAMan anthropomorphic (resembling a human) test device concept and the first generation prototype. The emphasis will be on non-injurious or biofidelity data but will also include injurious testing. All body regions will be addressed including whole-body testing and also prioritized testing of the following body regions, foot and ankle, leg, pelvis, lumbar spine, thoracic spine, cervical spine, torso, head and neck. Medical research is adding variations in boundary conditions and other initial condition, including the effect of personal protective equipment. Conduct studies to contrast injuries observed in theater with those created in the test program to validate and prioritize research. Emerging medical research data will be disseminated to the RDT&E community to support protection technology development and modeling and simulation initiatives. ***FY 2015 Plans:*** The Underbody Blast Testing project will continue medical research in the areas initiated in FY14 but with the emphasis shifting during the year from non-injurious conditions to those which cause injuries. This will enable the development of initial human injury probability curves that account for influences unique to the military and UBB environment. All data will continue to be transitioned into the WIAMan project to enable the fabrication of the first and second generation prototype anthropometric test devices (ATDs). Continue studies to contrast injuries observed in theater with those created in the test program to validate and prioritize research. Emerging medical research data will be disseminated to the RDT&E community to support protection technology development and modeling and simulation initiatives. Work will be initiated to prepare to perform matched pair testing of the first generation WIAMan prototype.			
Accomplishments/Planned Programs Subtotals	6.385	11.289	4.818

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 431A / *Underbody Blast Testing (Army)*

D. Acquisition Strategy

Produce biofidelity response corridors (BRC) and human injury probability curves (HIPC) for human skeletal response and tolerance in the military UBB environment and transition them for use in the development of the WIAMan UBB test manikin and for general use in the RDT&E community. Develop injury assessment reference curves for use with WIAMan manikin to support vehicle and protection technology acquisition decisions.

E. Performance Metrics

Performance metrics include the timely transition of actionable medical research from principal investigators for use in the development of the WIAMan UBB test manikin and to benefit the RDT&E protection technology and acquisition community. Actionable medical research includes biofidelty response corridors (BRCs), human injury probability curves (HIPC), and injury assessment reference curves (IARCs). Principal investigators will participate in In-Progress Reviews, technical interchange meetings, and theater injury analysis reviews. PIs will publish emerging results in the proceedings of injury biomechanics symposia and in relevant journals. As required, PIs will participate in DHP-sponsored review and analysis meetings, submit quarterly and annual status reports, and are subjected to Program Sponsor Representative progress review to ensure that milestones are being met and deliverables will be transitioned on schedule. An external peer review of the medical research will be conducted to ensure the medical research is scientifically valid and suitable for accreditation for use in supporting acquisition decisions.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 448A / *Military HIV Research Program (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
448A: *Military HIV Research Program (Army)*	-	-	6.912	5.773	-	5.773	6.589	6.701	7.579	5.792	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

This project funds research to develop candidate HIV vaccines, to assess their safety and effectiveness in human subjects, and to protect the military personnel from risks associated with HIV infection. All HIV technology development is conducted in compliance with US Food and Drug Administration (FDA) regulations. Evaluations in human subjects are conducted to demonstrate safety and effectiveness of candidate vaccines, as required by FDA regulation. Studies are conducted stepwise: first, to prove safety; second, to demonstrate the desired effectiveness of the drug, vaccine, or device for the targeted disease or condition in a small study; and third, to demonstrate effectiveness in large, diverse human population trials. All results are submitted to the FDA for evaluation to ultimately obtain approval (licensure) for medical use. This project supports studies for effectiveness testing on small study groups after which they transition to the next phase of development for completion of effectiveness testing in larger populations. This program is jointly managed through an Interagency Agreement between USAMRMC and the National Institute of Allergy and Infectious Diseases (NIAID). This project contains no duplication with any effort within the Military Departments or other government organizations. The cited work is also consistent with the Assistant Secretary of Defense, Research and Engineering Science and Technology focus areas.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Military HIV Research Program	-	6.912	5.773
Description: The Military HIV Research Program aims to develop candidate HIV vaccines, to assess their safety and effectiveness in human subjects, and to protect the military personnel from risks associated with HIV infection. ***FY 2013 Accomplishments:*** No DHP funding programmed. ***FY 2014 Plans:*** The Military HIV Research Program conducts safety and effectiveness studies with a combination vaccine in human volunteers at clinical trial sites world-wide and down-selects best candidates for further testing in human volunteers to study the ability of HIV vaccine candidates to provoke an immune response that can protect against HIV. ***FY 2015 Plans:*** Will conduct initial testing in humans for safety and effectiveness at CONUS and OCONUS sites with HIV-1 multivalent vaccine candidates. Initiate large scale production of vaccine candidates from various world-wide subtypes. These candidates will be used in future large scale clinical studies.			
Accomplishments/Planned Programs Subtotals	-	6.912	5.773

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 448A / *Military HIV Research Program (Army)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Mature and demonstrate candidate HIV vaccines, prepare and conduct human clinical studies to assess safety and effectiveness of candidate HIV vaccines. All HIV technology development activities are conducted in compliance with FDA regulations. Best selected candidates will be transitioned to advanced development through Milestone B.

E. Performance Metrics

Performance of the HIV research program will be monitored and evaluated through an external peer review process, with periodic reviews by the HIV Program Steering Committee and the Military Infectious Diseases Research Program Integrating Integrated Product Team (IIPT) and in-process reviews (IPR) conducted by USAMRMC Decision Gate process to include Health Affairs representation.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115HP / *Medical Technology Development*	Project (Number/Name) 830A / *Deployed Warfighter Protection (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
830A: *Deployed Warfighter Protection (Army)*	5.077	3.924	5.420	4.553	-	4.553	5.306	5.397	6.105	4.666	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

For the Armed Forces Pest Management Board (AFPMB), the Deployed Warfighter Protection project plans to develop new or improved protection for 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 physiology of insecticidal activity to develop new compounds with greater specific activity and/or higher user acceptability; examine existing area repellents for efficacy and develop new spatially effective repellent systems useful in military situations; develop new methods or formulations for treating cloth to prevent vector biting; and expand the number of active ingredients and formulations of public health pest pesticides, products and application technologies available for safe, and effective applications.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Deployed Warfighter Protection	3.924	5.420	4.553

Description: The Deployed Warfighter Protection Program will develop new or improved protection for ground forces from disease-carrying insects.

FY 2013 Accomplishments:

The Deployed Warfighter Protection research project expanded and continued implementing plans from FY12 to include new and improved control methods for mosquitoes, sand flies, filth flies and other insects of military importance; assessing innovative spray equipment and conducting pesticide efficacy trials in desert, temperate and tropical environments. This included refocusing control strategies for mosquitoes and sand flies, which are considered the main disease-bearing insect threats to deployed forces; new insect repellent systems and the modification of insecticide application technologies that are more effectively targeting disease carrying insects impacting military readiness. DWFP funded research efforts conducted by the US Department of Agriculture (USDA) Agricultural Research Service were featured in the November/December 2012 edition of the USDA ARS Magazine (See: http://www.ars.usda.gov/is/AR/archive/nov12/index.htm). The article provided an overview of the DoD funded research conducted by the USDA ARS highlighting synergistic efforts specifically meeting the needs of the military and notable for having an exceptional return on investment ratio of approximately 3 dollars of research effort for every 1 DWFP dollar invested. Similar successes were achieved in the competitive grant portfolio where DWFP managed 15 grants given to industry, academia and government labs in FY13. So far in FY13 DWFP produced an additional market-ready product and several more expected in the coming months. Specifically, attractive targeted sugar bait (ATSB®) received a registered trademark, patented use, commercial partner and Environmental Protection Agency (EPA)-approved label for the professional product being evaluated for

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 830A / *Deployed Warfighter Protection (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015

efficacy in mosquito control districts throughout CONUS and against sand flies in Europe. Feedback from these trials will impact the final military use product. Other significant accomplishments included several material transfer agreements with both US and international companies to evaluate and develop products used around the globe for insect protection, but not currently available in the US. These included spatial / area repellents; a critical replacement for permethrin treatment of military uniforms to make them repellent against biting insects; new specialized spray products for treating aircraft and ships; and durable insecticidal lining materials for attaching to interior walls of tents and more permanent structures. Significant advances were also made toward commercial development of an additional pesticide active ingredient for use as a rodent feed-through insecticide for killing desert sand flies that transmit human disease to military personnel. Numerous commercially available and experimental insecticides and sprayers were evaluated with the best performers added to the military stock system for use by combat forces. Two US patents were issued and seven submitted for products with military utility. These comprised the ATSB method; two new spatial repellents; a topical repellent more potent and longer-lasting than the common DEET; insecticide curtains for keeping insects out of aircraft and ships; specialized formulation of a toxicant (poison that is made by humans) used in a DWFP patented mosquito trap; a skin applied product that prevents insects from detecting human odors; an atomizer to produce ultra small droplets needed to kill flying mosquitoes; and a new bed net fabric design. Arising from the cumulative DWFP efforts on sand fly control, AFPMB approved the addition of a DoD technical guide for sand fly biology and control globally. During FY13, more than 70 additional peer reviewed scientific publications resulted from DWFP efforts. New and ongoing efforts are detailed in the FY14 section below. Multiple USDA and Competitive Grant projects were delayed by 3 to 6 months due to reduced funding for FY13.

FY 2014 Plans:

The Deployed Warfighter Protection project continues FY13 efforts concentrating on developing products and resources to enable combat forces to better protect themselves and control militarily important insects that bite, sting and transmit force degrading diseases. This is accomplished through continuing R&D to discover, develop, patent, license, produce and secure commercially feasible products, and EPA registration of new and improved insecticides, application technologies and repellent systems. The DWFP is: (1) actively pursuing EPA product label changes for use against disease-carrying insects threatening deployments outside the United States; (2) continuing field trials, engaging regional, national and international commercial partners and developing reduced risk pesticides such as ATSBs® and other insecticides found to be effective for desert sand flies, blood-sucking flies and filth fly control; (3) continuing cooperative work and formal Agreements with industry promoting insecticide development and EPA registrations; (4) evaluating insect control materials and application technologies in collaboration with military labs and others in Africa, Asia, Europe and the Pacific; (5) conducting field trials of patented next generation “lethal ovitraps” designed to attract and kill disease carrying mosquitoes when they are trying to lay their eggs; (6) optimizing patented molecular, highly specific insecticides based on genes specific for target insects; (7) continuing field evaluations of experimental and military stock listed equipment and insecticides against CONUS and OCONUS medically important insects; (8) continuing evaluations of new commercial sprayers, with best performing products added to the military stock system; (9) continuing assessments of how insecticide aerosols kill insects in desert, temperate and tropical environments; (10) continuing CONUS

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 830A / *Deployed Warfighter Protection (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
and OCONUS evaluations of spatial repellents and insecticides used as barriers for sand flies and other medically important arthropods; (11) evaluating prototype hybrid insecticide sprayers that use the best attributes of existing technologies; (12) continuing to develop and evaluate effectiveness of new and existing insecticide treated military uniforms, finding supplementary or replacement compounds for future use; (13) continuing to validate efficacy of military issue repellents against insects that are infected with disease causing pathogens; (14) conducting field evaluations of military uniform attachments impregnated with volatile insecticides to kill and repel insects; (15) continuing to identify sensory structures on mosquitoes that detect DEET and other repellent active ingredients, basic findings that can lead to custom blends and molecular designs of new repellents; (16) continuing to screen and develop plant-derived insecticides and repellents with high potential for military use; (17) continuing to develop and field new insecticides and improved formulations to treat military uniforms and other military textiles used in a variety of climates; (18) developing and fielding new stock-listed insecticide sprayers including electro-static technologies; and, (19) continuing to synthesize and screen new compounds for insecticidal and repellency properties. Given FY13 funding levels, the Program did not issue a request for proposals as part of the Competitive Grant program for new FY14 starts.			
FY 2015 Plans: The Deployed Warfighter Protection (DWFP) project will continue to develop and field tools that enable deployed forces to better protect themselves and control militarily important insects that bite, sting and transmit force degrading diseases. This will be accomplished through continued research, testing and evaluation, patent submissions, licensing, and EPA registrations for new insecticides, application technologies and repellent systems. DWFP will prioritize research efforts that focus on critical gaps identified by the Services and Combatant Commands to control insects (mosquitoes, sand flies, fleas, flies, mites, and ticks) and provide tools in 3 thrust areas: personal protection systems, insecticides and application technologies. Focus areas which will continue for FY15 include: • Enhanced Personal Protection Systems: Transition prototype bite-proof fabrics from the lab to initial field testing; continue safety, efficacy, user acceptability and durability studies of combat uniforms treated with a new chemical to replace permethrin; and transition lab prototype micro-dispensers and textile-based area/spatial-repellent dispensers for arthropod repellent/toxicants to initial field tests. • New Insecticides: Work with the EPA to pursue EPA product label changes for use against disease-carrying insects threatening deployments outside the United States; continue FY14 collaborations and formal agreements with industry partners to develop new insecticides for EPA registration; initiate semi-field testing of molecular pesticides that attack specific genes in the insect and new essential oil insecticides and synergists; continue studies to determine how insecticides kill insects in order to support development of improved insect control technologies effective in desert, temperate and tropical environments; and continue screening efforts to evaluate plant-derived and other natural insect control compound with improved safety profiles and high potential for military use. • Next generation Application Technology: Conduct initial field testing of next generation portable insecticide sprayers including electro-static technologies and other emerging technologies to field lighter systems; develop smart phone based applications to			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115HP / *Medical Technology Development*	**Project (Number/Name)** 830A / *Deployed Warfighter Protection (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
support decision makers and field, insect control operators; transition patented attractive targeted sugar bait delivery technology to a commercial partner as a novel reduced risk pesticide.			
Accomplishments/Planned Programs Subtotals	3.924	5.420	4.553

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Develop, mature and field new or improved products and strategies that protect US forces from disease-carrying insects. Secure registered trademarks, patents, commercial partners, and/or EPA registration of new or improved insecticides, application technologies and repellent systems. Continue to partner with industry to field products and coordinate with the Services and relevant Program Executive Offices (PEOs) to transition efforts.

E. Performance Metrics

Performance for the Deployed Warfighter Protection Program is measured by the insecticides and other products given EPA registration and added to the military stock system, changes in pest management techniques or technologies used by the military to control biting/disease causing insects, patents, and peer-reviewed scientific manuscripts. The Program conducts an annual Research Review during which a panel of DoD subject matter experts provides input on programmatic alignment and strategic priorities.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program											Date: March 2014	
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0604110HP *I Medical Products Support and Advanced Concept Development*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	191.536	160.717	177.601	97.787	-	97.787	95.815	120.502	136.540	151.921	Continuing	Continuing
374A: *GDF-Medical Products Support and Advanced Concept Development*	159.890	120.534	128.601	97.787	-	97.787	95.815	120.502	136.540	151.921	Continuing	Continuing
400Z: *CSI - Congressional Special Interests*	27.750	40.183	49.000	-	-	-	-	-	-	-	Continuing	Continuing
434A: *AF-Medical Products Support and Advanced Concept Development*	3.896	-	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force (GDF) - Medical Products Support and Advanced Concept Development: funding is for product support and advanced concept development of medical products that are regulated by the US Food and Drug Administration (FDA); the transition of FDA-licensed and unregulated products and medical practice guidelines to the military operational user through clinical and field validation studies; prototyping, risk reduction and product transition efforts for medical information technology applications, such as coordination with the Program Execution Office for possible integration into the Military Health System; and medical simulation and training system technologies.

The resulting advanced development portfolio 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 and the strategy and initiatives described in the Quadrennial Defense Review. 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 Defense Medical Research and Development Program's Joint Program Committees, established to manage research, development, test and evaluation for the Defense Health Program (DHP). Research supported by this program element includes transition of medical training and health information sciences; advanced development of rapid pathogen (infectious agent) detection in fresh whole blood; field assessment of intervention tools for post traumatic stress disorder (PTSD); and clinical trials on biomarkers (biological indicators) for traumatic brain injury (TBI) and spinal cord injury, combat casualty care advanced product development, and rehabilitative medicine. As the research efforts mature, the most promising efforts will transition to medical products and support systems development funding, Program Element 0605145.

The Army Medical Command received DHP Congressional Special Interest (CSI) research funding focused on Peer-Reviewed Traumatic Brain Injury and Psychological Health Research, and Peer-Reviewed Joint Warfighter Medical Research. Because of the CSI annual structure, out-year funding is not programmed.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0604110HP *I Medical Products Support and Advanced Concept Development*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	144.403	132.430	146.610	-	146.610
Current President's Budget	160.717	177.601	97.787	-	97.787
Total Adjustments	16.314	45.171	-48.823	-	-48.823
• Congressional General Reductions	-0.259	-0.124			
• Congressional Directed Reductions	-15.897	-			
• Congressional Rescissions	-	-			
• Congressional Adds	43.712	49.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.864	-			
• SBIR/STTR Transfer	-8.378	-3.705			
• Reductions related to Departmental Efficiencies - Project 374A	-	-	-48.823	-	-48.823

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 400Z: *CSI - Congressional Special Interests*		
Congressional Add: *427A - Traumatic Brain Injury/ Psychological Health*	28.493	10.000
Congressional Add: *441A - Joint Warfighter Medical Research Program*	11.690	35.000
Congressional Add: *455A - Therapeutics Service Dog Training Program*	-	4.000
Congressional Add Subtotals for Project: 400Z	40.183	49.000
Congressional Add Totals for all Projects	40.183	49.000

Change Summary Explanation

FY 2013: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0604110-Medical Products Support and Advanced Concept Development (-$8.378 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+$8.378 million).

FY 2013: Congressional Special Interest (CSI) additions to DHP RDT&E, PE 0604110-Medical Products Support and Advanced Concept Development (+ $43.712 million).

FY 2013: General Congressional Reductions to DHP RDT&E, PE 0604110-Medical Products Support and Advanced Concept Development (-$0.259 million).

FY 2013: Congressional Directed Reductions (Sequestration) to DHP RDT&E, PE 0604110-Medical Products Support and Advanced Concept Development (-$15.897 million).

FY 2013: Below Threshold Reprogramming (BTR) from DHP RDT&E PE, 0604110-Medical Products Support and Advanced Concept Development (-$0.124 million) to DHP RDT&E PE, 0603002-Advanced Technology (AFRRI) (+$0.124 million).

FY 2013: Below Threshold Reprogramming (BTR) from DHP RDT&E PE, 0604110-Medical Products Support and Advanced Concept Development (-$2.740 million) to DHP RDT&E PE, 0606105-Medical Program-Wide Activities (+$2.740 million).

FY 2014: Congressional Special Interest (CSI) Additions to DHP RDT&E, PE 0604110-Medical Products Support and Advanced Concept Development (+ $49.000 million).

FY 2014: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0604110-Medical Products Support and Advanced Concept Development (-$3.705 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+$3.705 million).

FY 2015: Reduces non-combat injury research funding in order to focus and continue the pace of progress in critical and high priority research areas for DHP RDT&E, PE 0604110-Medical Products Support and Advanced Concept Development ($-48.823 million).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0604110HP / *Medical Products Support and Advanced Concept Development*	Project (Number/Name) 374A / *GDF-Medical Products Support and Advanced Concept Development*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
374A: *GDF-Medical Products Support and Advanced Concept Development*	159.890	120.534	128.601	97.787	-	97.787	95.815	120.502	136.540	151.921	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force (GDF)-Medical Products Support and Advanced Concept Development: Advanced development efforts are intended to support clinical trials of promising technologies that may provide solutions for the most pressing medical needs of the Warfighter, acceleration of the transition of those technologies to the operators in the field, and promulgation of new, evidence-based approaches to the practice of medicine as clinical practice guidelines. Research will be conducted in four specific areas: trials for transition of modeling and simulation technology for medical training/education/treatment; trials for transition of medical technology, practice guidelines, and standards; advanced component development of medical products; and medical information technology development. Within the areas of medical simulation and training the research areas concentrate in Combat Casualty Training Initiative (CCTI), Medical Practice Initiative (MPI), Health Focus Initiative (HFI), and Tools for Medical Education Initiative (TMEI). Within the research areas of health informatics, research efforts will include force health protection and readiness, medical resourcing, healthcare services, and enterprise information management. Future efforts will provide long term efficiencies by defining processes to grow and improve the electronic healthcare record and other medical related systems, and to implement new trends and advancements in technology. The efforts will help improve healthcare access, availability, continuity, cost effectiveness, and quality. Initial candidates will be selected from those funded by other medical research sponsors in the Department, and from external sources such as academia and industry, including efforts funded with prior year Congressional special interest funding. Within military infectious diseases, research efforts include advanced development of rapid pathogen (infectious agent) detection in fresh whole blood, wound infection prevention and management, antimicrobial countermeasures, and diagnostic systems for infectious diseases. Within operational medicine, advanced development efforts include field assessment of intervention tools for post traumatic stress disorder (PTSD), nutrition and dietary supplements, advancement of the physiologic status monitor, pharmaceuticals for the treatment of PTSD, development of military family and community health and resilience diagnoses and treatment, and validation trials for enhanced suicide prevention. For combat casualty care advanced product development, efforts include clinical trials on biomarkers (biological indicators) for traumatic brain injury (TBI) and spinal cord injury; forward surgical/intensive critical care; control, resuscitation and blood products, craniomaxillofacial injury, lung injury and burns; and enroute care. For rehabilitative medicine, efforts include pain management and regenerative medicine clinical trials.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: GDF – Medical Product Support and Advanced Concept Development	120.534	128.601	97.787
Description: Product support and advanced concept development of medical products that are regulated by the US Food and Drug Administration (FDA); the accelerated transition of FDA-licensed and unregulated products and medical practice guidelines to the military operational user, through clinical and field validation studies; prototyping, risk reduction, and product transition efforts for medical information technology applications; and medical training systems technologies.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0604110HP / *Medical Products Support and Advanced Concept Development*	**Project (Number/Name)** 374A / *GDF-Medical Products Support and Advanced Concept Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015

FY 2013 Accomplishments:

For medical training and health information sciences (MTHIS), a combat casualty training initiative improved the ability of simulation systems to minimize live tissue usage. Solicitation and initial funding selections were made for Phase 1 of an advanced modular manikin core technology to which future peripheral modules can attach and interact to provide a breadth of training capabilities. Research continued on medical practice initiatives started within the fiscal year, which will result in materiel or knowledge products that support the MTHIS mission. MTHIS and Pacific Joint Information Technology Center (P-JITC) coordinated with the functional end-users and the Program Offices to map proposed and current research initiatives critical to the Warfighter. Research efforts explored emerging technologies that mitigate enterprise risk within health informatics, force health protection and readiness, medical resourcing, healthcare services, and enterprise infrastructure management with a focus on projects advancing data management, more sophisticated analytics, and promoting the advancement of novel user interfaces and data presentation for better information display. Specific efforts focused on theater data capture and management, information sharing and interoperability, identity management, clinical decision support, mobile devices, and novel information displays. Additionally, MTHIS and P-JITC worked with the Integrated Electronic Health Record way-ahead offices of the Department of Defense Military Health System and Veteran's Affairs for requirements identification and collaboration/coordination with the new Development and Test Center in Richmond, Virginia and the Telemedicine and Advanced Technology Research Center Test Lab at Fort Detrick, Maryland. P-JITC also maintained the test and evaluation lab (Independent Verification and Validation Center) for testing and integration of departmental/Warfighter projects in the Sensitive Compartment Information Facility lab in Hawaii.

Military infectious diseases research continued support for field testing diagnostic capabilities and systems across operational echelons, as well as continued multi-year efforts for the development of FDA-cleared tests to be used in the prescreening of deployed military forces for transfusion transmitted diseases in emergency blood collection operations within the task for Rapid Screening of Fresh Whole Blood. The Acquisition Decision Memorandum for this effort was signed and the project transitioned to Advanced Development. Research efforts continued on products enabling the DoD to better diagnose and respond to future disease outbreaks as directed in the Quadrennial Defense Review.

Military operational medicine efforts included a time-course determination for antioxidant delivery after steady-state noise or impulse-noise to assess the best method to prevent hearing loss, began studies focused on enhancing medical monitoring and alerting capabilities of the Spartan Sensor Network (SPARNET) system, continued clinical trials assessing the use of drugs as a treatment for deployment-related post traumatic stress disorder (PTSD) and evaluation of the effectiveness of prolonged exposure therapy plus antidepressants for OEF/OIF veterans with PTSD, conducted focus groups to evaluate an online mental health assessment tool, and evaluated factors that may mediate or moderate responses to brief interventions to reduce alcohol use and associated problems.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0604110HP / *Medical Products Support and Advanced Concept Development*	**Project (Number/Name)** 374A / *GDF-Medical Products Support and Advanced Concept Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Combat casualty care continued efforts initiated in FY11 and FY12 to develop a spray-dried plasma product, a smooth-pursuit eye tracking monitor to diagnose concussions, and a device to screen and kill infectious organisms in whole blood. Received Food and Drug Administration (FDA) 501(k) clearance for a decision support system to manage fluid resuscitation in severely burned patients. Supported studies involving the use of infrared goggles to treat severe trauma, and clinical trials on the pre-hospital use of plasma and a drug to treat concussions. This candidate drug responds to the Joint Capabilities Integration Development System requirement for a drug treatment for traumatic brain injury as well as the Quadrennial Defense Review requirement to increase research and treatment for traumatic brain injuries. Finalized agreement with the Veteran's Administration (VA) enabling initiation of a co-sponsored multi-site clinical study assessing the effectiveness of commonly prescribed off-label treatments for combat-related post-traumatic stress disorder (PTSD). Clinical and rehabilitative medicine continued clinical research started in FY12 within the areas of pain management, regenerative medicine, and sensory system restoration and rehabilitation after traumatic injury. Additional clinical studies were initiated within the focus areas of regenerative medicine-based approaches for limb (arms and legs) and digit (fingers, thumbs and toes) salvage, craniomaxillofacial (skull, face and jaw) reconstruction, scarless wound healing, burn repair, and genitourinary (system of the reproductive and urinary organs) restoration. ***FY 2014 Plans:*** Medical training and health information sciences (MTHIS) research is beginning on the core portion (Phase 1) of the advanced modular manikin within the Medical Simulation and Training portfolio. Medical Simulation and Training continues efforts to develop products that employ the use of simulation technologies in Warfighter medical training. MTHIS's Health Informatics & Information Technology, coordinates research to mitigate program risk for the Military Health System information program. The primary focus is on medical information technology and informatics needs to support the Warfighter. MTHIS continues to identify ways to reduce potential near- and long-term risks associated with information technology development and legacy systems, and to prepare for the transition to the Department of Defense modernized Electronic Health Record. Research solicitations focus on gaps such as mobile health and personal health management, advancement of advance data capture from Point of Injury to CONUS care, to include data transmission initiatives, new clinical decision support efforts, and patient identification issues that incorporate patient consent, privacy, and security. Military infectious diseases research is advancing development of a multiplexed infectious disease pathogen Nucleic Acid based diagnostic testing system for the rapid screening of donor-derived fresh whole blood. Three infectious disease assays being added this year. Military operational medicine advances development efforts through clinical trials to validate the use of improved psychotherapies (psychological treatment of mental disorders) and pharmaceuticals for the treatment of PTSD, as well as clinical trials studying			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0604110HP / *Medical Products Support and Advanced Concept Development*	**Project (Number/Name)** 374A / *GDF-Medical Products Support and Advanced Concept Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015

alcohol and substance abuse, and suicide prevention. Research is also supporting the development and integration of a physiologic status monitor, and clinical nutrition and dietary supplement studies.

Combat casualty care is initiating Phase 2 and Phase 3 clinical trials to support an FDA Biologic License Application for a spray dried plasma product. Conduct a DoD-VA multi-site collaborative study assessing the effectiveness of commonly prescribed off-label treatments for combat-related PTSD. Continue validation of a smooth-pursuit eye tracking system to diagnose concussions and clinical trials on the pre-hospital use of plasma and a drug to treat concussions. Initiate Phase 2 and Phase 3 clinical trials for a device that kills infectious organisms in whole blood. Begin advanced development on a system bringing advanced intensive care capabilities to frontline medics and medical treatment facilities.

Clinical and rehabilitative medicine is continuing clinical studies within the areas of pain management, regenerative medicine, and sensory system restoration and rehabilitation after traumatic injury. Clinical research is continuing, and new clinical trials are starting within the focus areas of regenerative medicine-based approaches for limb (arms and legs) and digit (fingers, thumbs and toes) salvage, craniomaxillofacial (skull, face and jaw) reconstruction, scarless wound healing, burn repair, and genitourinary (system of the reproductive and urinary organs) restoration. Clinical research is continuing, and new clinical trials are starting within the focus area of pain management.

FY 2015 Plans:

Medical training and health information sciences (MTHIS) within the medical simulation and training portfolio will build on the efforts of the Advanced Modular Manikin Phase 1 by down selecting to one partner for Phase 2. Upon completion of Phase 2, a manikin core will be complete in which task specific peripherals (i.e., arm, legs, head) can be attached for training. This will allow for a standardized core platform for which the future peripherals may attach and interact. Efforts will begin to explore technologies and techniques to better protect Warfighters from the psychological stresses and trauma experienced during deployment through the development of stress inoculation simulation systems. Medical simulation and training will develop methods in which virtual environments and serious gaming can be used to prepare service members for combat scenarios. MTHIS's health informatics portfolio will focus efforts on theater information technology research gaps such as point of injury data capture and transmission, incorporation of theater health information into DoD and VA health systems, and technology issues related to a theater environment.

Military infectious diseases research will continue to develop diagnostic systems for infectious diseases by funding a combat support hospital-based polymerase chain reaction (PCR) system for detection of infectious diseases at a rate of up to three infectious disease assays per year added to the next generation system. Funds will be allocated to support one antimicrobial countermeasures human clinical study for the development of an antibacterial drug effective against multiple drug resistant bacteria, to support one wound infection prevention and management clinical study to advance our knowledge of clinical

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0604110HP / *Medical Products Support and Advanced Concept Development*	**Project (Number/Name)** 374A / *GDF-Medical Products Support and Advanced Concept Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
management of infected wounds with a clinical practice guideline being the deliverable, and to support rapid screening of fresh whole blood clinical development via a Nucleic Acid Testing platform, which will transition to medical products development, Program Element 0605145. Military operational medicine will support advanced development efforts initiated in FY14 programs: clinical practice guidelines for improved psychotherapies (psychological treatment of mental disorders) for PTSD; clinical trials to enhance pharmaceutical (medications) treatment of PTSD; clinical practice guidelines for the prevention of alcohol and substance abuse; and clinical practice guidelines for suicide prevention. Research will develop and integrate the physiologic status monitor, and will conduct human studies on validation of nutrition and dietary supplements. Combat casualty care will complete Phase 2 and Phase 3 clinical trials to support FDA Biologic License Application for a spray-dried plasma product. Continue DoD-VA multi-site collaborative study assessing the effectiveness of commonly prescribed off-label treatments for combat-related PTSD. Complete clinical trials on a device that kills infectious organisms in whole blood. Will continue advanced development of a system to provide advanced intensive care capabilities to first responders and frontline medical treatment facilities. These products will increase survival on the battlefield and enhance survival and improve outcomes of casualties at medical treatment facilities in theater. Clinical and rehabilitative medicine will transition current efforts to fielding, private industry, or medical systems development, PE 0605145, for products/solutions/guidelines, and continue clinical studies in the areas of pain management, regenerative medicine, and rehabilitation after traumatic injury. Clinical trials will begin for regenerative medicine-based approaches, which include approaches for limb (arms and legs) and digit (fingers, thumbs and toes) salvage, craniomaxillofacial (skull, face and jaw) reconstruction, scarless wound healing, repair of skin injury resulting from burns, composite tissue allotransplantation (hand and face transplantation) and associated immune system modulation technologies, and genitourinary (system of the reproductive and urinary organs) restoration. Products for battlefield pain management will transition to late phase FDA regulated clinical trials.			
Accomplishments/Planned Programs Subtotals	120.534	128.601	97.787

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Test and evaluate medical device prototypes, medical procedures, and drug and vaccine candidates in government-managed Phase 2 clinical trials to gather data required for military and regulatory requirements prior to production and fielding, to include FDA approval and Environmental Protection Agency registration.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0604110HP / *Medical Products Support and Advanced Concept Development*	**Project (Number/Name)** 374A / *GDF-Medical Products Support and Advanced Concept Development*

E. Performance Metrics

Principal Investigators will participate in In-Progress Reviews, high-level DHP-sponsored review and analysis meetings, submit quarterly and annual status reports, and are subjected to Program Office or Program Sponsor Representatives progress reviews to ensure that Decision Gate milestones are being met and deliverables will be transitioned on schedule. In addition, Integrated Product Teams, if established for a therapy or device, will monitor progress in accordance with DoD Regulation 5000 series. The benchmark performance metric for transition of research supported in this PE will be the attainment of a maturity level that is typical of Technology Readiness Level (TRL) 7.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0604110HP / *Medical Products Support and Advanced Concept Development*	Project (Number/Name) 400Z / *CSI - Congressional Special Interests*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
400Z: *CSI - Congressional Special Interests*	27.750	40.183	49.000	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The FY13 DHP Congressional Special Interest (CSI) funding supported peer-reviewed directed research for Traumatic Brain Injury and Psychological Health, and Joint Warfighter Medical Research. Because of the CSI annual structure, out-year funding is not programmed.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
Congressional Add: 427A - Traumatic Brain Injury/ Psychological Health	28.493	10.000
FY 2013 Accomplishments: The Traumatic Brain Injury and Psychological Health (TBI/PH) Congressional Special Interest project aims to prevent, mitigate, and treat the effects of combat-relevant traumatic stress and TBI on function, wellness, and overall quality of life, including interventions across the deployment lifecycle for warriors, Veterans, family members, caregivers, and communities. Project funding was divided into basic research, applied research, technology development and advanced concept development efforts. For TBI concept development efforts, researchers continued clinical trials utilizing smooth-pursuit eye tracking technology to diagnose concussions, began development of a burr-hole (round hole surgically cut in the skull) training device to aid in training non-neurosurgeons to do cranial decompression procedures, and began two clinical trials: one to test the use of low-dose methamphetamine for the treatment of TBI and the other to assess a novel treatment for spinal cord injury. For psychological health, researchers performed clinical trials on rapid trauma management therapy for intensive treatment of post-traumatic stress disorder (PTSD).		
FY 2014 Plans: This Congressional Special Interest project will support Traumatic Brain Injury/ Psychological Health research.		
Congressional Add: 441A - Joint Warfighter Medical Research Program	11.690	35.000
FY 2013 Accomplishments: The Joint Warfighter Medical Research Program (JWMRP) is intended to provide continuing support for promising previously funded Congressional Special Interest projects. The focus is to augment and accelerate high priority DoD and Service medical requirements that are close to achieving their objectives and yielding a benefit to military medicine. Project funding is divided into technology development and engineering and manufacturing development efforts. The JWMRP directly supports military medical research in military infectious diseases, combat casualty care, military operational medicine, medical training and		

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0604110HP / *Medical Products Support and Advanced Concept Development*	**Project (Number/Name)** 400Z / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
health information sciences, and clinical and rehabilitative medicine to include pain management, regenerative medicine, and sensory system (hearing and sight) rehabilitation and restoration. Through an iterative process of recommendations, prior year CSI-funded projects were nominated for consideration by the Services, Joint Program Committee Chairs, and execution management activities. Those projects deemed by the Joint Program Committees to have the highest priority to fill critical research or materiel gaps and those projects close to developing a product were invited to submit a full proposal for the next level of effort. A technical review of the full proposals was completed. A Programmatic Review Board recommended 17 projects in the technology development area and 7 projects in the advanced concept development area for funding. The office of the Assistant Secretary of Defense (Health Affairs) approved the recommended funding prioritization list. Projects selected for funding are in the initial stages of the contracting process. Award negotiations will be completed by the end of the third quarter of FY14. ***FY 2014 Plans:*** This Congressional Special Interest project will support the Joint Warfighter Medical Research Program.		
Congressional Add: 455A - Therapeutics Service Dog Training Program ***FY 2013 Accomplishments:*** None. ***FY 2014 Plans:*** This Congressional Special Interest project will support Therapeutics Service Dog Training research.	-	4.000
Congressional Adds Subtotals	40.183	49.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Prior year CSI funded research will be assessed for developmental maturity and qualification for initial or continued advanced development funding. If advanced development criteria are met, follow-on development will be solicited through a peer-reviewed process.

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0604110HP / *Medical Products Support and Advanced Concept Development*	Project (Number/Name) 434A / *AF-Medical Products Support and Advanced Concept Development*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
434A: *AF-Medical Products Support and Advanced Concept Development*	3.896	-	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Air Force Medical Products Support and Advanced Concept Development efforts are focused on achieving rapid transition of promising, high TRL commercially-available off-the-shelf products through minor modifications and/or enhancements to address the most pressing medical needs of the Warfighter, accelerating of the transition of those technologies to the operators in the field. Development, Modification and Enhancement projects will emphasize technologies supporting Expeditionary Medicine, Enroute Care, Force Health Protection, Operational Medicine and Human Performance.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Air Force Medical Products Support and Advanced Concept Development	-	-	-
Description: Rapidly transition key COTS and near-COTS based technology solutions to the warfighter through assessment/ evaluation and minor modification or enhancement of solutions to address threshold operational requirements and associated key performance parameters. ***FY 2013 Accomplishments:*** Continue transition efforts begun with FY12 funding received September 2012. ***FY 2014 Plans:*** Complete transition efforts begun with FY12 funding received September 2012. ***FY 2015 Plans:*** No funding programmed. Program transfered to USUHS starting in FY 2015.			
Accomplishments/Planned Programs Subtotals	-	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0604110HP / *Medical Products Support and Advanced Concept Development*	**Project (Number/Name)** 434A / *AF-Medical Products Support and Advanced Concept Development*

D. Acquisition Strategy

Partnership with the US Navy in an inter-agency agreement and use (award of delivery orders and task assignments) to a engineering and manfacturing development IDIQ vehicle awarded under SBIR phase III provisions

E. Performance Metrics

Achievement of required TRL for each advanced concept development/product support project and fulfillment of estabilshed KPPs for same.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program											Date: March 2014	
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0605013HP *I Information Technology Development*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	162.226	57.314	41.928	21.696	-	21.696	18.862	19.679	23.582	21.386	Continuing	Continuing
239B: *Health Services Data Warehouse (Air Force)*	0.000	-	1.175	0.717	-	0.717	0.908	0.962	1.436	1.461	Continuing	Continuing
239F: *IM/IT Test Bed (Air Force)*	3.800	-	2.328	1.801	-	1.801	1.844	1.837	2.222	2.686	Continuing	Continuing
283C: *Medical Operational Data System (MODS) (Army)*	1.472	-	3.420	3.413	-	3.413	2.601	2.678	3.547	4.016	Continuing	Continuing
283D: *Army Medicine CIO Management Operations*	1.492	-	4.499	-	-	-	2.832	2.862	3.636	4.133	Continuing	Continuing
283F: *Army Warrior Care and Transition System (AWCTS)*	0.488	-	0.355	-	-	-	-	-	-	-	Continuing	Continuing
283H: *Psychological and Behavioral Health - Tools for Evaluation, Risk, and Management (PBH-TERM)*	0.000	-	-	-	-	-	-	-	-	-	Continuing	Continuing
283I: *Workload Management System for Nursing-Internet*	0.264	-	-	-	-	-	-	-	-	-	Continuing	Continuing
283J: *Multi-Drug Resistant Surveillance Network (MRSN)*	1.374	-	-	0.807	-	0.807	-	-	-	-	Continuing	Continuing
283K: *Veterinary Services Systems Management (VSSM)*	0.000	-	0.238	-	-	-	-	-	-	-	Continuing	Continuing
283L: *Pharmacovigilance Defense Application System*	-	-	-	0.300	-	0.300	-	-	-	-	Continuing	Continuing
385A: *Integrated Electronic Health Record Inc 1 (Tri-Service)*	80.837	49.856	-	-	-	-	-	-	-	-	Continuing	Continuing
386A: *Virtual Lifetime Electronic Record (VLER) HEALTH (Tri-Service)*	7.006	7.458	-	-	-	-	-	-	-	-	Continuing	Continuing
423A: *Defense Center of Excellence (FHP&RP)*	1.177	-	1.259	-	-	-	-	-	-	-	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program										Date: March 2014		
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0605013HP *I Information Technology Development*							
423B: *Defense Center of Excellence (Army)*	-	-	-	1.225	-	1.225	0.942	0.959	1.255	1.421	Continuing	Continuing
435A: *NICOE Continuity Management Tool*	2.855	-	-	-	-	-	-	-	-	-	Continuing	Continuing
446A: *Disability Mediation Service (DMS)*	0.000	-	0.559	0.382	-	0.382	0.433	0.445	0.588	0.666	Continuing	Continuing
480C: *Defense Medical Logistics Standard Support (DMLSS) (Tri-Service)*	5.370	-	-	3.978	-	3.978	1.933	-	-	-	Continuing	Continuing
480D: *Defense Occupational and Environmental Health Readiness System - Industrial Hygiene (DOEHRS-IH) (Tri-Service)*	3.372	-	1.507	-	-	-	-	3.633	3.694	2.803	Continuing	Continuing
480F: *Executive Information/ Decision Support (EI/DS) (Tri-Service)*	3.127	-	4.932	-	-	-	2.551	1.791	-	-	Continuing	Continuing
480G: *Health Artifact and Image Management Solution (HAIMS) (Tri-Service)*	0.000	-	3.884	0.304	-	0.304	-	-	-	-	Continuing	Continuing
480K: *integrated Federal Health Registry Framework (Tri-Service)*	0.000	-	2.591	1.093	-	1.093	-	-	-	-	Continuing	Continuing
480P: *Other Related Technical Activities (Tri-Service)*	4.123	-	5.162	2.990	-	2.990	-	1.683	3.500	-	Continuing	Continuing
480R: *TMA E-Commerce (TMA)*	2.934	-	5.733	-	-	-	-	-	-	-	Continuing	Continuing
482A: *E-Commerce (DHA)*	-	-	-	2.494	-	2.494	2.766	2.829	3.704	4.200	Continuing	Continuing
490I: *Navy Medicine Chief Information Officer*	2.106	-	4.286	2.192	-	2.192	2.052	-	-	-	Continuing	Continuing
490J: *Navy Medicine Online*	1.369	-	-	-	-	-	-	-	-	-	Continuing	Continuing
480B: *Defense Medical Human Resources System (internet) (DMHRSi) (Tri-Service)*	0.585	-	-	-	-	-	-	-	-	-	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program											Date: March 2014		
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*								
480M: *Theather Medical Information Program - Joint (TMIP-J) (Tri-Service)*	28.731	-	-	-	-	-	-	-	-	-	-	Continuing	Continuing
480Y: *Clinical Case Management (Tri-Service)*	2.925	-	-	-	-	-	-	-	-	-	-	Continuing	Continuing
480Z: *Centralized Credentials and Quality Assurance System (CCQAS) (Tri-Service)*	1.692	-	-	-	-	-	-	-	-	-	-	Continuing	Continuing
481A: *Theather Enterprise Wide Logistics System (TEWLS) Tri-Service)*	5.127	-	-	-	-	-	-	-	-	-	-	Continuing	Continuing
MDAP/MAIS Code: **Other MDAP/MAIS Code(s):** 465													

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Army Medical Command received PE 0605013 funding to identify, explore, and demonstrate key information technologies to overcome medical and military unique technology barriers. Programs include Army service level support for the Medical Operational Data System (MODS), the Army Medicine Chief Information Officer's (CIO) Management Operations, the Army Warrior Care and Transition System (AWCTS), the Psychological and Behavioral Health – Tools for Evaluation, Risk, and Management (PBH-TERM), the Workload Management System for Nursing – Internet (WMSNi), the Multidrug-Resistant Organism Repository and Surveillance Network (MRSN), and the Veterinary Services Systems Management (VSSM).

The Navy Medical Command RDT&E funding supports the development required for those systems which are integral to Navy Medicine (i.e., Navy Medicine Online (NMO)). Navy Medicine also funds, when appropriate, a number of small-scale, opportunistic business improvements when the technology makes a sudden advance. These projects are generally not in the scope of the TRICARE Management Activity (TMA) Central Programs such as the development/integration of Defense Optical Fabrication Enterprise Management System (DOFEMS) into a fully automated system to support workload distribution, performance metrics, staffing requirements, supply management, calculation of operating costs from the current independently or manually DOFEMS system. This effort will be a web based centralized management tool and provide a standalone standard set of Lab Management software for all 26 Navy labs. Additionally, the re-design of HIV Management System (HMS) will be more user friendly, less time to perform everyday tasks and prevents the need to maintain separate databases. The re-design will also automate and minimize functions that require manual assistance and assist in fulfilling new requirements.

For the Air Force Medical Service (AFMS), this program element supports IM/IT development requirements within four AFMS Chief Information Officer defined core capabilities as essential to Air Force Medical Service IM/IT mission support. Data warehousing, reporting services, systems integration, and custom application development are featured in almost all IM/IT systems and application requests. The information needs of the AFMS are growing in volume, complexity, and delivery formats. In order to meet future requirements, aggregation of more and varied data sources require increasingly complex data warehousing capabilities. Demand for

dynamic analytic capability will require investments in business intelligence, predictive analytic tools, open source research data models, and emerging personalized medicine analysis. Information is still largely produced in an ad hoc manner without standard methodologies, mapping of business requirements, transparent analytic models, and distributed by office productivity software. Centralized production of standard reports, balance sheets, and dynamic query tools would relieve many managers and action officer of routine work and increase leadership decision support. AFMS medical readiness reporting and tracking has set the standard in the DoD for over a decade but multiple applications now encompass what has merged into a common process of tracking unit capability and personal health assessments. Consolidation of medical readiness applications would streamline disability, medical readiness, deployment surveillance, and flying status tracking and reporting who currently must move between multiple applications.

For the Air Force, the funding in this program element provides for sustainment of the IM/IT Test Bed (IMIT-TB) capability, which is a dedicated OT location and staff encompassing the entire spectrum of healthcare services and products available in MTFs, to provide risk controlled testing of designated core and interim medical applications in a live environment.

The MHS centrally-managed, Tri-Service IM/IT RDT&E program includes funding for development/integration, test and evaluation for the following initiatives of special interest: 1) Integrated Electronic Health Record (iEHR) which is a new Major Automated Information System (MAIS) program designed to replace/sunset the current portfolio of systems providing initial Electronic Health Record (EHR) capability, such as AHLTA (which is DoD´s current EHR and one of the world's largest clinical information systems that provides worldwide online access to patients medical records) and the Composite Health Care System (CHCS) (which is the military's legacy computerized provider order entry (CPOE) system used for ordering/documenting lab tests, radiology exams, prescription transactions, and for documenting outpatient appointments as well as other care that is administered). iEHR will establish a comprehensive, longitudinal, electronic health record that will also support the Virtual Lifetime Electronic Record (VLER) HEALTH initiative. Commensurate with the OSD AT&L Acquisition Decision Memorandum (ADM), dated July 21, 2013, the former joint DoD and Department of Veterans Affairs (VA) Integrated Electronic Health Record (iEHR) program has been restructured to pursue two separate but related healthcare information technology efforts, the DoD Healthcare Management System Modernization (DHMSM) program and the joint iEHR program; 2) Theater Medical Information Program-Joint (TMIP-J) integrates components of the military medical information systems to ensure interoperable medical support for all Theater and deployed forces; 3) Defense Medical Logistics Standard Support (DMLSS) provides integrated supply chain and life cycle management for pharmaceuticals, medical supplies, equipment, health facilities, and services; 4) Executive Information/Decision Support (EI/DS) receives, stores, processes data from MHS systems used for managing the business of health care; 5) Defense Occupational and Environmental Health Readiness System – Industrial Hygiene (DOEHRS-IH) assembles, evaluates and stores data on occupational personnel exposure information, workplace environment monitoring, personnel protective equipment usage, and observation of work practices. The Central IM/IT Program also provides RDT&E funding for mission essential initiatives such as: funding for other related technical activities such as shared services investment and for various Wounded, Ill and Injured (WII) Warrior initiatives like Health Artifact and Image Management Solution (HAIMS), and Federated Registry Framework.

The DHP RDT&E appropriation includes the following TMA initiatives: Electronic Commerce System (E-Commerce): This system was developed for centralized collection, integration, and reporting of accurate purchased care contracting and financial data. It provides an integrated set of data reports from multiple data sources to management, as well as tools to control the end-to-end program change management process. E-Commerce is composed of several major applications including: Contract Management (CM), utilizing Prism software to support contract action development and documentation; Resource Management (RM), employing Oracle Federal Financials and TED interface software to support the budgeting, accounting, case recoupment, and disbursement processes; Document Management, utilizing Document software to provide electronic storage, management, and retrieval of contract files; Management Tracking and Reporting, utilizing custom software to

provide reports to assist in the management and tracking of changes to the managed care contracts as well as current and out year liabilities; the Purchased Care and Contractor's Resource Center web sites that provide up-to-date financial information for both TMA and the Services concerning the military treatment facilities (MTFs), and expenditures for MTF enrollee purchased care and supplemental care. E-Commerce includes an infrastructure of over 60 servers supporting development, test, and production. E-Commerce is employed by several hundred users in more than 7 different organizations. Project oversight and coordination must be provided to ensure that the needs of the disparate organizations are met without influencing system performance or support to any individual user. Server configurations must remain current with respect to security policies, user authorizations, and interactions with other systems and functions. All of these activities must be managed and coordinated on a daily basis.

Disability Mediation Service (DMS): The VTA (Veteran's Tracking Application) has been the primary system to track, record, and report data for the IDES (Integrated Disability Evaluation System) process. The VTA is scheduled to sun-set, by VA (Veterans Affairs), and the data is being moved to another application. Migration of VTA to another application creates the requirement to allow data exchange between Service non-medical case management and new VA DES (Disability Evaluation System) IT application. The BEC (Benefits Executive Council) is looking to create a DMS (Disability Mediation Service), which is an integrator between the Services and VA.

The DMS will facilitate the improvement of non-medical case management tracking and IDES data/information management. It will eliminate redundant data entry within DoD (Department of Defense), improving data quality by capturing more data for operational reporting from the Services and WCP, decrease backlog by eliminating data entry duplication, and minimize impact to DoD Services by allowing the Services to continue using their existing/planned systems without requiring retraining on a new applications.

The DMS will be created from existing technology. It will provide a mediation service to help isolate each system from changes and uniqueness in the other systems and allow the Services and WCP to report and drill down on data that we capture during the exchange. This IT solution will not replace current DoD systems, but will require some modifications and enhancements to those systems to support the date exchange. WCP will support development costs for these efforts. Services will assume responsibility and POM costs for modifications, enhancements, and maintenance in the out years."

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	145.268	43.135	27.937	-	27.937
Current President's Budget	57.314	41.928	21.696	-	21.696
Total Adjustments	-87.954	-1.207	-6.241	-	-6.241
• Congressional General Reductions	-0.191	-			
• Congressional Directed Reductions	-82.160	-			
• Congressional Rescissions	-0.998	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-4.605	-1.207			
• Reductions related to IM/IT Departmental Efficiencies	-	-	-6.241	-	-6.241

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*

Change Summary Explanation

FY 2013: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0605013-Information Technology Development (-$4.605 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+$4.605 million).

FY2013: General Congressional Reductions (-$0.191 million).

FY 2013: Congressional Directed Reductions (Sequestration) (-$82.160 million).

FY 2013: Congressional Rescission (-$0.998 million).

FY 2014: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0605013-Information Technology Development (-$1.207 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+$1.207 million).

FY 2015: Departmental Fiscal Guidance directed reductions to DHP RDT&E, PE 0605013-Information Technology Development (-$7.466 million).

FY 2015: Transfer between DHP RDT&E Components of the Defense Center of Excellence (FHP&RP) Program, PE 0605013-Information Technology Development from the DHA (-$1.225 million) to Army (+$1.225 million).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 239B / *Health Services Data Warehouse (Air Force)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
239B: *Health Services Data Warehouse (Air Force)*	-	-	1.175	0.717	-	0.717	0.908	0.962	1.436	1.461	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Previously known as Assessment Demonstration Center (ADC), Health Services Data Warehouse (HSDW) addresses and focuses on Air Force Medical Service (AFMS) Data Strategy under the DoD and AF Net Centric Enterprise Services. HSDW will develop an Enterprise Data Warehouse (EDW) and Data Marts consolidating databases and transition to a SOA architecture. Program will improve data collection, aggregation, analysis, and data visualization of medical information. New data models will allow rapid development of enterprise-wide reports utilizing Business Intelligence tools.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: 239B - Health Services Data Warehouse	-	1.175	0.717
Description: AFMS will purchase COTS software/licenses and build custom scripts for development of the data warehouse. The COTS software will expedite consolidation and cleansing of data, measure data quality, merge and organize data for reporting tools. These efforts will be used to complete the transition of CDM data into the HSDW. ***FY 2013 Accomplishments:*** No funding programmed. ***FY 2014 Plans:*** For FY14, AFMS will purchase COTS software/licenses and build custom scripts for development of the data warehouse. The COTS software will expedite consolidation and cleansing of data, measure data quality, merge and organize data for reporting tools. These efforts will be used to complete the transition of CDM data into the HSDW. ***FY 2015 Plans:*** AFMS will continue to use COTS software to build custom scripts for development of the data warehouse. The COTS software will expedite consolidation and cleansing of data, measure data quality, merge and organize data for reporting tools. These efforts will be used to complete the transition of CDM data into the HSDW.			
Accomplishments/Planned Programs Subtotals	-	1.175	0.717

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 239B / *Health Services Data Warehouse (Air Force)*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807781HP: *Non-Central Information Management/ Information Technology*	3.386	10.900	11.267	-	11.267	11.435	11.398	11.569	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 239F / *IM/IT Test Bed (Air Force)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
239F: *IM/IT Test Bed (Air Force)*	3.800	-	2.328	1.801	-	1.801	1.844	1.837	2.222	2.686	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Dedicated operational test (OT) location and staff encompassing the entire spectrum of healthcare services and products available in Military Treatment Facilities (MTFs), to provide realistic, risk controlled testing of designated core and interim medical applications in an operationally realistic environment. Critical component of ongoing capability development & fielding efforts, ensuring that each is supported by an independent, unbiased assessment of effectiveness, suitability, security, and survivability in a realistic operational environment as required by the FAR 46.103, DoD 5000, and AFI 99-103. The AFMISTB is a complementary service to existing MHS developmental, integration, interoperability, and security testing facilities, forming a logical test process continuum leading to effective deployment decisions. Outcomes include decreasing life-cycle costs of IM/IT products by catching errors early in the acquisition process where they are less costly to fix, and increasing patient safety by fielding operationally tested medical information systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: 239F IM/IT Test Bed (Air Force)	-	2.328	1.801

Description: Provide realistic, risk controlled testing of designated core and interim medical applications in an operationally realistic environment. Critical component of ongoing capability development & fielding efforts, ensuring that each is supported by an independent, unbiased assessment of effectiveness, suitability, security, and survivability in a realistic operational environment as required by the FAR 46.103, DoD 5000, and AFI 99-103. The AFMISTB is a complementary service to existing MHS developmental, integration, interoperability, and security testing facilities, forming a logical test process continuum leading to effective deployment decisions. Outcomes include decreasing life-cycle costs of IM/IT products by catching errors early in the acquisition process where they are less costly to fix, and increasing patient safety by fielding operationally tested medical information systems.

FY 2013 Accomplishments:

Continue to provide realistic, risk controlled testing of designated core and interim medical applications in an operationally realistic environment. Critical component of ongoing capability development & fielding efforts, ensuring that each is supported by an independent, unbiased assessment of effectiveness, suitability, security, and survivability in a realistic operational environment as required by the FAR 46.103, DoD 5000, and AFI 99-103. The AFMISTB is a complementary service to existing MHS developmental, integration, interoperability, and security testing facilities, forming a logical test process continuum leading to effective deployment decisions. Outcomes include decreasing life-cycle costs of IM/IT products by catching errors early in

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 239F / *IM/IT Test Bed (Air Force)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
the acquisition process where they are less costly to fix, and increasing patient safety by fielding operationally tested medical information systems. ***FY 2014 Plans:*** Continue to provide realistic, risk controlled testing of designated core and interim medical applications in an operationally realistic environment. Critical component of ongoing capability development & fielding efforts, ensuring that each is supported by an independent, unbiased assessment of effectiveness, suitability, security, and survivability in a realistic operational environment as required by the FAR 46.103, DoD 5000, and AFI 99-103. The AFMISTB is a complementary service to existing MHS developmental, integration, interoperability, and security testing facilities, forming a logical test process continuum leading to effective deployment decisions. Outcomes include decreasing life-cycle costs of IM/IT products by catching errors early in the acquisition process where they are less costly to fix, and increasing patient safety by fielding operationally tested medical information systems. ***FY 2015 Plans:*** Continue to provide realistic, risk controlled testing of designated core and interim medical applications in an operationally realistic environment. Critical component of ongoing capability development & fielding efforts, ensuring that each is supported by an independent, unbiased assessment of effectiveness, suitability, security, and survivability in a realistic operational environment as required by the FAR 46.103, DoD 5000, and AFI 99-103. The AFMISTB is a complementary service to existing MHS developmental, integration, interoperability, and security testing facilities, forming a logical test process continuum leading to effective deployment decisions. Outcomes include decreasing life-cycle costs of IM/IT products by catching errors early in the acquisition process where they are less costly to fix, and increasing patient safety by fielding operationally tested medical information systems.			
Accomplishments/Planned Programs Subtotals	-	2.328	1.801

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• N/A: *N/A*	-	-	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 239F / *IM/IT Test Bed (Air Force)*

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 283C / *Medical Operational Data System (MODS) (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
283C: *Medical Operational Data System (MODS) (Army)*	1.472	-	3.420	3.413	-	3.413	2.601	2.678	3.547	4.016	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Army Medical Command received PE 0605013 funding to identify, explore, and demonstrate key information technologies to overcome medical and military unique technology barriers. The Medical Operational Data System (MODS) program includes development projects for Army service level support. Specifically, the MODS provides a responsive and reliable human resource and readiness information management data system for all categories of military and civilian medical and support personnel.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Medical Operational Data System (MODS)	-	3.420	3.413

Description: Information management system to provide responsive and reliable human resource and readiness data for all categories of military and civilian medical and support personnel.

FY 2013 Accomplishments:

FY13 certification/funding were utilized for final development increments for Data Warehouse (DW), Three Tier Object-Oriented Architectural Design, Robust Business Intelligence (RBI), and Enterprise Service Bus (ESB). Development work included extensive data privacy protection and auditing. DW development also included descriptive and predictive analytical capabilities for AMEDD data analysts and Subject Matter Experts (SMEs). With the enterprise structure in place, software development is focused on using the ESB framework to build new customer web services. Service capability for cross functional querying was strengthened by building data cubes models to capture information among various applications. Primary data cubes reside within the modernized Data Warehouse Data Marts. Software development mapped data cube capabilities through the RBI for use by MODS customers. In its role as an information broker, MODS customer web services enabled assembly and rapid extraction as well as certification/funding of data tailored to specific information needs of Commanders and Staff. Efforts included modernizing and significantly enhancing existing individual, and/or adding new, MODS applications to support the Army Medical Command, Army, Joint Force and/or Military Health System emerging capabilities and requirements.

FY 2014 Plans:

FY14 certification/funding is being utilized to expand the data warehouse data collection mechanisms to extrapolate prescriptive data sets that can be used to render data inference-supported Courses of Action (COA) based on MODS operational data. This includes analysis and augmentation of predictive data models made available in the FY13 RBI and Data Warehouse efforts. Adaptation of the RBI capability is being executed to best extrapolate data mining and information discovery regarding various

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 283C / *Medical Operational Data System (MODS) (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
levels of DoD readiness to include expanded service member population data amid Government and academic cohorts (as deemed appropriate). Three-tier Object Oriented Architectural Design is extending its Extensible Development Framework as a source for AMEDD related rapid application development. ***FY 2015 Plans:*** FY15 certification/funding is slated for expansion of the Three Tier Object-Oriented Architectural Design (3TOOAD); implementing significant enhancement and technical unification of Human Resources, G-3/7, PA&E and 68W capabilities. Implementation of database activity monitoring, PHI/PII interactive auditing and a web application firewall will also be integrated system-wide through the 3TOOAD effort. Data brokering will be augmented with cohort data exchanges and rapid messaging capabilities to include schema (framework) validation, XML threat protection, digital signature processing, cryptography (secret code writing), and content transformation. Data Visualization, a key Data Warehouse facet, will expose prepositioned data objects from proofs-of-concept to proliferation with Demographics, Medical Readiness, Human Resources and Command Management data assimilation at its core.			
Accomplishments/Planned Programs Subtotals	-	3.420	3.413

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807781HP: *Non-Central Information Management/ Information Technology*	9.024	9.295	12.689	-	12.689	13.326	13.726	14.138	14.407	Continuing	Continuing
• BA-3, 0807721HP: *Replacement/Modernizaation*	-	-	0.420	-	0.420	-	0.570	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

1. MEASURE: Data Warehouse reduces the total number of database maintenance hours.
METRIC: % database maintenance hrs = number of monthly database maintenance hours/total database maintenance hrs of previous year average.

2. MEASURE: Data Warehouse supports queries and reports with few data errors (information quality-accuracy).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 283C / *Medical Operational Data System (MODS) (Army)*

METRIC: % of reports and queries that contain data errors = total number of reports and queries with data errors /total number of reports and queries.
The METRIC: % of reports and Queries that contain data errors = total number of reports and queries with data errors/total number of reports and queries.

3. MEASURE: Data Warehouse provides the data needed by users and applications (information quality-completeness).
METRIC: % post-Data Warehouse = total number (post-Data Warehouse) queries and reports/total number (pre + post-Data Warehouse) queries and reports.

4. MEASURE: Three-Tier Object Oriented Architectural Design (3TOOAD) benefits are reduced costs for implementation of new functionalities.
METRIC: % of labor cost = cost of MSR for functional implementation/average cost of similar MSR from previous year(s).

5. MEASURE: Organizational and individual impact of Data Warehouse, 3TOOAD, and Robust Business Intelligence.
METRIC: >= 8.5 avg. benchmark score (0 to 10 scale) on quarterly quality and impact surveys from users.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 283D / *Army Medicine CIO Management Operations*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
283D: *Army Medicine CIO Management Operations*	1.492	-	4.499	-	-	-	2.832	2.862	3.636	4.133	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Army Medical Command received PE 0605013 funding to identify, explore, and demonstrate key information technologies to overcome medical and military unique technology barriers. The Army Medicine CIO Management Operations program includes development projects for Army service level support. Specifically, the Army Medicine CIO Management Operations encompasses the Army Medical CIO's Information Management/Information Technology (IM/IT) development activities to ensure compliance with Congressional, Office of Management and Budget, DoD, and Military Health System requirements.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: 283D - Army Medicine CIO Management Operations	-	4.499	-
Description: The Army Medicine CIO Management Operations will provide system development, engineering, and testing requirements of interim Army medical applications in an operationally realistic, risk controlled test environment to comply with Congressional, Office of Management and Budget, DoD, and Military Health System requirements. ***FY 2013 Accomplishments:*** The Army Medicine CIO Management Operations completed the requirements analysis, system specification, software development and system design for new Army IM/IT systems initiated in FY13. ***FY 2014 Plans:*** For FY14, the Army Medicine CIO Management Operations is developing and enhancing a system that will provide system development, engineering, and testing requirements of Army Medical applications, which provides realistic, risk controlled testing of designated core and interim medical applications in an operationally realistic environment. ***FY 2015 Plans:*** No funding programmed.			
Accomplishments/Planned Programs Subtotals	-	4.499	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 283D / *Army Medicine CIO Management Operations*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807781HP: *Non-Central Information Management/ Information Technology*	55.500	51.638	44.370	-	44.370	44.541	42.777	42.717	43.529	Continuing	Continuing
• BA-3, 0807721HP: *Replacement/Modernization*	4.000	3.219	1.014	-	1.014	3.549	1.129	3.975	4.050	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

Periodic management evaluation based on ability to provide system development, engineering, and testing requirements of new Army medical applications.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 283F / *Army Warrior Care and Transition System (AWCTS)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
283F: *Army Warrior Care and Transition System (AWCTS)*	0.488	-	0.355	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Army Medical Command received PE 0605013 funding to identify, explore, and demonstrate key information technologies to overcome medical and military unique technology barriers. The Army Warrior Care and Transition System (AWCTS) program includes development projects for Army service level support. Specifically, the AWCTS is a family of systems that allows the integration of multiple business processes under the consolidated oversight of the Warrior Transition Command.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Army Warrior Care and Transition System (AWCTS)	-	0.355	-
Description: A family of systems that allows the integration of multiple business processes under the consolidated oversight of the Warrior Transition Command. ***FY 2013 Accomplishments:*** Completed the continued development and deployment of remaining functionality. Automated Comprehensive Transition Plan legacy data migrated into AWCTS over the course of the 6 week deployment plan. This final migration of data and functionality into AWCTS is encapsulating most of the various organizations and business processes of the Wounded Warrior Life Cycle together which provides authoritative information for all stakeholders and users. Additionally, AWCTS completed the interfaces needed in support of the DoD/VA information sharing initiative. ***FY 2014 Plans:*** AWCTS development efforts include adding the following functionality within AWCTS: The Career, Education Readiness pilot functionality from a business process management platform in Army Knowledge Online into AWCTS, the addition of VA information sharing initiative data fields into Warrior Transition Units (WTU) module in accordance with VA/DoD project plans, enhancement of the Soldier portal within the WTU module, and the coordination of business practices within the WTU modules. ***FY 2015 Plans:*** No funding programmed.			
Accomplishments/Planned Programs Subtotals	-	0.355	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 283F / *Army Warrior Care and Transition System (AWCTS)*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807714HP: *Other Health Activities*	1.440	1.587	1.691	-	1.691	1.776	1.865	1.958	1.995	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

1. MEASURE: Increase Soldier's ability to access career and education, and communication with transition coordinators.
METRIC: Days from submitting request to an appointment or obtaining information

2. MEASURE: Provide the capability for staff to be able to gain visibility of a Soldier's transition status.
METRIC: Days from submitting request to receiving status of Soldier.

3. MEASURE: Provide the capability for staff to analyze metrics and business processes.
METRIC: Days from requesting metrics/BP reports until receipt of data.

4. MEASURE: Provide the capability for automated workflow processes to decrease manual and decentralized processes.
METRIC: Percentage of automated processes versus manual processes

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 283H / *Psychological and Behavioral Health - Tools for Evaluation, Risk, and Management (PBH-TERM)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
283H: *Psychological and Behavioral Health - Tools for Evaluation, Risk, and Management (PBH-TERM)*	-	-	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Psychological and Behavioral Health – Tools for Evaluation, Risk, and Management (PBH-TERM) is a development project for Army service level support. Specifically, PBH-TERM is a web-based psychological and Behavioral Health information technology application, which supports evidence-based, standardized and integrated behaviorial health initiatives and program evaluation.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Psychological and Behavioral Health – Tools for Evaluation, Risk, and Management (PBH-TERM)	-	-	-
Description: PBH-TERM is a web-based psychological and Behavioral Health (BH) information technology application, which supports evidence-based, standardized and integrated BH initiatives and program evaluation. ***FY 2013 Accomplishments:*** No funding programmed. ***FY 2014 Plans:*** No funding programmed ***FY 2015 Plans:*** No funding programmed			
Accomplishments/Planned Programs Subtotals	-	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 283H / *Psychological and Behavioral Health - Tools for Evaluation, Risk, and Management (PBH-TERM)*

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

Not specified.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 283I / *Workload Management System for Nursing-Internet*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
283I: *Workload Management System for Nursing-Internet*	0.264	-	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Army Medical Command received PE 0605013 funding to identify, explore, and demonstrate key information technologies to overcome medical and military unique technology barriers. The Workload Management System for Nursing – Internet (WMSNi) program includes development projects for Army service level support. Specifically, the WMSNi supports clinical staff scheduling, based on known and projected patient care needs, for continuous 24x7 hospital operations.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Workload Management System for Nursing-Internet	-	-	-
Description: The Army Medical Command received PE 0605013 funding to identify, explore, and demonstrate key information technologies to overcome medical and military unique technology barriers. The Workload Management System for Nursing – Internet (WMSNi) program includes development projects for Army service level support. Specifically, the WMSNi supports clinical staff scheduling, based on known and projected patient care needs, for continuous 24x7 hospital operations. ***FY 2013 Accomplishments:*** No funding programmed. ***FY 2014 Plans:*** No funding programmed. ***FY 2015 Plans:*** No funding programmed.			
Accomplishments/Planned Programs Subtotals	-	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 283I / *Workload Management System for Nursing-Internet*

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 283J / *Multi-Drug Resistant Surveillance Network (MRSN)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
283J: *Multi-Drug Resistant Surveillance Network (MRSN)*	1.374	-	-	0.807	-	0.807	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Army Medical Command received PE 0605013 funding to identify, explore, and demonstrate key information technologies to overcome medical and military unique technology barriers. The Multi-Drug Resistant Surveillance Network (MRSN) program includes development projects for Army service level support. Specifically, the MRSN is the Enterprise effort to collect and characterize bacterial isolates to inform best practice, such as patient management and antibiotic selection.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Multi-Drug Resistant Surveillance Network (MRSN)	-	-	0.807
Description: MRSN is the Enterprise effort to collect and characterize bacterial isolates to inform best practice, such as patient management and antibiotic selection. ***FY 2013 Accomplishments:*** No funds programmed. ***FY 2014 Plans:*** No funds programmed. ***FY 2015 Plans:*** Funding will be used to develop and Test Phase 2 Features of MRSN. Funding will also be used to develop and deploy the First System Update which places the new features into production; and Phase 3 Features.			
Accomplishments/Planned Programs Subtotals	-	-	0.807

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807781HP: *Non-Central Information Management/ Information Technology*	-	-	0.532	-	0.532	0.544	0.757	0.775	0.790	Continuing	Continuing
• BA-1, 0807714HP: *Other Health Activities*	-	-	0.060	-	0.060	0.061	0.085	0.087	0.089	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 283J / *Multi-Drug Resistant Surveillance Network (MRSN)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

Business metrics:

1. Turn-around time from receipt of isolate shipment to initial test results being available on MRSN System.
Current Performance : 2 weeks
Target Performance: 4 days
Data Source: Comparison of isolate receipt date and test result date

2. Time to prepare monthly Antibiogram Report
Current Performance: 8 weeks
Target Performance: 2 weeks
Data Source: Number of days following the end of the month that the report is distributed/posted

3. Antibiogram (or other major product) Report Views
Current Performance: N/A (not currently implemented)
Target Performance: 30 per month
Data Source: Server logs

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 283K / *Veterinary Services Systems Management (VSSM)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
283K: *Veterinary Services Systems Management (VSSM)*	-	-	0.238	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Army Medical Command received PE 0605013 funding to identify, explore, and demonstrate key information technologies to overcome medical and military unique technology barriers. The Veterinary Services Systems Management (VSSM) program includes development projects for Army service level support. Specifically, the VSSM will capture veterinary health care treatment information in the event of an internet disruption.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Veterinary Services Systems Management (VSSM)	-	0.238	-
Description: VSSM will capture veterinary health care treatment information in the event of an internet disruption. ***FY 2013 Accomplishments:*** No funding programmed. ***FY 2014 Plans:*** FY14 certification/funding for Veterinary Services Systems Management (VSSM) program will be utilized to provide the additional capability needed for a commercial laboratories interface to electronically exchange laboratory test results data between the VSSM application and all approved commercial laboratories. ANTECH Laboratory is the only commercial laboratory interface currently supported. The data from all the other approved commercial laboratories must be either manually entered, which is labor intensive and subject to inaccuracies, or scanned in, which does not provide minable data. The solution scope will allow Veterinary Services the ability to achieve the business objects of providing a clinically integrated, secure web-based application to support the Veterinary Services mission. ***FY 2015 Plans:*** No funding programmed.			
Accomplishments/Planned Programs Subtotals	-	0.238	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 283K / *Veterinary Services Systems Management (VSSM)*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807781HP: *Non-Central Information Management/ Information Technology*	-	2.068	1.689	-	1.689	1.717	1.770	1.790	1.985	Continuing	Continuing
• BA-3, 0807721HP: *Replacement/Modernization*	-	0.500	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

MEASURE: The success of Commercial Laboratories Interface will be the capability in VSSM to electronically request and receive laboratory test results from approved external commercial laboratories, resulting in minable data.

METRIC: The electronic laboratory test result data will be timely, accurate, and allow alerts for potential disease surveillances to be triggered in VSSM.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 283L / *Pharmacovigilance Defense Application System*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
283L: *Pharmacovigilance Defense Application System*	-	-	-	0.300	-	0.300	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Pharmacoviligance Defense Application System (PVDAS) provides Military providers Defense Patient Safety reports from the Food and Drug Administration (FDA) after a drug´s release to market.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Pharmacoviligance Defense Application System (PVDAS)	-	-	0.300
Description: The Pharmacoviligance Defense Application System (PVDAS) provides Military providers Defense Patient Safety reports from the Food and Drug Administration (FDA) after a drug´s release to market. ***FY 2013 Accomplishments:*** No funding programmed. ***FY 2014 Plans:*** No funding programmed. ***FY 2015 Plans:*** FY15 funding for the Pharmacoviligance Defense Application System will be used to finalize the process improvements to provide improved information for making military health system formulary decisions, better visibility into medical practice for enhancing patient safety, and greater access to drug risk/benefit information for military physicians.			
Accomplishments/Planned Programs Subtotals	-	-	0.300

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 283L / *Pharmacovigilance Defense Application System*

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 385A / *Integrated Electronic Health Record Inc 1 (Tri-Service)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
385A: *Integrated Electronic Health Record Inc 1 (Tri-Service)*	80.837	49.856	-	-	-	-	-	-	-	-	Continuing	Continuing

MDAP/MAIS Code: 465

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The integrated Electronic Health Record (iEHR) was approved to provide seamless integrated sharing of electronic health data between the DoD and Department of Veterans Affairs (VA).
Commensurate with the OSD AT&L Acquisition Decision Memoranda (ADM), dated July 21, 2013 and January 2, 2014, the former joint DoD and VA iEHR program has been restructured within the DoD to pursue two separate but related healthcare information technology efforts, the DoD Healthcare Management System Modernization (DHMSM) program and a redefined iEHR program. These programs report through the PEO DoD Healthcare Management Systems (DHMS) to the USD (AT&L).

iEHR RDT&E is reported under the program element 0605013 through FY 2013 inclusive, but will be reported under new program element 0605023 for FY 2014 and out.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Integrated Electronic Health Record (iEHR) Inc 1 (Tri-Service)	49.856	-	-
Description: The iEHR primary role is health care delivery services. iEHR is a collaborative effort between the DoD and VA to share Health Care Resources to improve access to, and quality and cost effectiveness of, health care as mandated by law. This investment is deeply embedded in the MHS Enterprise Roadmap as both Departments have need for modernization/ replacement of existing legacy systems. This investment will use a combination of an open architecture approach, and the purchase (in some instances) of GOTS and COTS products.			
FY 2013 Accomplishments: • Reached successful VA Project Management Accountability System (PMAS) acquisition Milestone B (Active) review and decision in September 2013, supported by Data Federation Accelerators approved acquisition documents. • Use of data was provided by clinical mobile applications and Janus Joint Legacy Viewer (JLV). JLV was deployed to seven locations and expanded in two cities (approximately 250 users) for joint data at VA Polytrauma sites. • Developed initial Phase of Medical Community of Interest (MED-COI), an enterprise Virtual Private Network (VPN) service providing access to authorized users of DoD and VA. MED-COI reduces latency and increase system responsiveness.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 385A / *Integrated Electronic Health Record Inc 1 (Tri-Service)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
No funding programmed in this program element. ***FY 2015 Plans:*** No funding programmed in this program element.			
Accomplishments/Planned Programs Subtotals	49.856	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807793HP: *MHS Tri-Service Information*	138.526	-	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

Each program establishes performance measurements. Program cost, schedule and performance are measured periodically using a systematic approach.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 386A / *Virtual Lifetime Electronic Record (VLER) HEALTH (Tri-Service)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
386A: *Virtual Lifetime Electronic Record (VLER) HEALTH (Tri-Service)*	7.006	7.458	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The primary goal of the VLER Health initiative is to enable the secure sharing of health information (i.e., demographic and clinical data) between DoD and external Federal and private sector partners which meets Meaningful Use (MU) requirements to improve healthcare quality, safety, and efficiency. By electronically sharing health information using national standards, that information can support tracking key clinical conditions, communicating that information to better coordinate care, and engaging patients in their own care. The VLER Health initiative provides clinicians with the most up-to-date information, potentially reducing redundant diagnostic tests, medical errors, paperwork and handling, and overall healthcare costs. These benefits, in turn, align with the MHS quadruple aim by ensuring that the military force is medically ready to deploy; the military beneficiary population remains healthy through focused prevention; patient care is convenient, equitable, safe, and of the highest quality; and the total cost of healthcare is reduced through the reduction of waste and focus on quality.

VLER Health funding will be reflected in the Integrated Electronic Health Record Program Element 0605023 in FY 2014 and out.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Virtual Lifetime Electronic Record (VLER) HEALTH (Tri-Service)	7.458	-	-
Description: Work with Department of Veterans Affairs (VA), Department of Health & Human Services (HHS), and Private Sector to expand VLER.			
FY 2013 Accomplishments: • VLER Exchange (the DoD system responsible for exchanging health information with both Federal and private healthcare partners) deployed a new release that included technical enhancements (e.g., an upgrade in the CONNECT software from version 2.4.7 to 3.3) to improve its speed and reliability. • VLER Exchange deployed new functionality at select pilot sites to enable non-active duty medical beneficiaries to opt out from sharing their health information with external partners; to enable DoD to display, approve, and reject SSA authorization forms; and provide the ability to accept and send additional patient health data to and from external partners via structured and unstructured documents in a safe and secure manner, in accordance with DoD privacy and security requirements. • An opt-in/opt-out policy for non-active duty medical beneficiaries was drafted and will be evaluated and finalized after the new VLER Exchange functionality and technical upgrades deployed at pilot sites are evaluated. The purpose of the pilot is to validate business rules, inform policy, and assess improvements in the system's speed and reliability.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 386A / *Virtual Lifetime Electronic Record (VLER) HEALTH (Tri-Service)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
• VLER Exchange developed functionality for its future release, including the exchange of health information in the C-CDA (Consolidated-Clinical Document Architecture) to meet MU Stage 2 requirements, and made technical modifications to further improve the system's speed and reliability. • The team that supports VLER Health worked closely with HealtheWay and external partners on the eHealth Exchange, including SSA, to collaborate on standards, onboarding, and joint partner testing. • Stage 1 of the VLER Direct pilot project was completed. This pilot project involved the development of a simple, secure, scalable, and standards-based method to send encrypted, electronic health information directly to known, trusted recipients over the Internet. This method was tested at Hill Air Force Base by exchanging Clear and Legible Reports (CLRs) – mammography referral results – with a selected network provider, McKay-Dee Hospital. ***FY 2014 Plans:*** No funding programmed in this program element. ***FY 2015 Plans:*** No funding programmed in this program element.			
Accomplishments/Planned Programs Subtotals	7.458	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807793HP: *MHS Tri-Service Information*	7.439	-	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

Each program establishes performance measurements which are usually included in the MHS IT Annual Performance Plan. Program cost, schedule and performance are measured periodically using a systematic approach.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 423A / *Defense Center of Excellence (FHP&RP)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
423A: *Defense Center of Excellence (FHP&RP)*	1.177	-	1.259	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY15, transferred from FHP&R (Project Code 423A) to Army (Project Code 423B).

A. Mission Description and Budget Item Justification

The Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE) is a United States Department of Defense (DoD) organization that provides guidance across DoD programs related to psychological health (PH) and traumatic brain injury (TBI) issues. The organization's mission statement is: "DCoE assesses, validates, oversees and facilitates prevention, resilience, identification, treatment, outreach, rehabilitation, and reintegration programs for PH and TBI to ensure the Department of Defense meets the needs of the USA's military communities, warriors and families." DCoE focuses on education and training; clinical care; prevention; research; and service member, family and community outreach. In collaboration with the Department of Veterans Affairs, the organization supports the Department of Defense's commitment of caring for service members from the time they enter service and throughout the completion of their service. DCoE also seeks to mitigate the stigma that still deters some from reaching out for help for problems such as post-traumatic stress disorder and TBI. The organization has a leadership role in collaborating with a national network of external entities[1] including non-profit organizations,[2] other DoD agencies, academia, Congress,[3] military services and other federal agencies.[4] Public health service and civil service workers, including personnel from the Department of Veterans Affairs and individuals from all the military services as well as contract personnel comprise the staff of DCoE. DCoE's goals include providing the necessary resources to facilitate the care of service members who experience TBI or PH concerns and ensuring that appropriate standards of care exist and are maintained across the Department of Defense. DCoE seeks to create, identify and share best practices, conducting necessary pilot or demonstration projects to better inform quality standards when best practices or evidence based recommendations are not readily available. Other DCoE goals include ensuring that program standards are executed and quality is consistent and creating a system in which individuals across the United States expect and receive the same level and quality of service regardless of their service branch, component, rank or geographic location. DCoE comprises eight directorates and six component centers responsible for TBI/PH issues. These DCoE entities execute programs, provide clinical care, conduct research, identify and share best practices and provide strategic planning for PH and TBI across the DoD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Defense Center Of Excellence (FHP&RP)	-	1.259	-
Description: DCoE programs and products are developed to drive innovation across the continuum of care by identifying treatment options and other clinical and research methods that deliver superior outcomes. Products range from tools customized for health care providers to electronic resources for service members and families.			
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 423A / *Defense Center of Excellence (FHP&RP)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Funds will be utilized to upgrade and redesign the afterdeployment.org website. Launched in August 2008, afterdeployment.org provides self-care tools to assist with a range of adjustment concerns (combat stress, sleep problems, anger management, etc.), with an emphasis on exercise-based interactivity, community support, and multimedia applications. For the T2 Toolkit (T2T), funding would be used for the second phase of development that is focusing on the new generation of PH 3D Games and Mobile Apps that will enhance many area of PH for DoD service members, family, and veterans. ***FY 2014 Plans:*** Funds will be utilized to finalize the multi-phased upgrade and redesign of the afterdeployment.org website. Afterdeployment.org will provide the latest in self-care tools that assist with a range of adjustment concerns (combat stress, sleep problems, anger management, etc.), with an emphasis on exercise-based interactivity, community support, and multimedia applications. For the T2 Toolkit (T2T), funding would be used for the final phase of development focusing on the new generation of PH Mobile Apps that will enhance many area of PH for DoD service members, family, and veterans. ***FY 2015 Plans:*** No funding Programmed.			
Accomplishments/Planned Programs Subtotals	-	1.259	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 423B / *Defense Center of Excellence (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
423B: *Defense Center of Excellence (Army)*	-	-	-	1.225	-	1.225	0.942	0.959	1.255	1.421	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

Note

Transferred from FHP&R (Project Code 423A) to Army (Project Code 423B) in FY15.

A. Mission Description and Budget Item Justification

The Army Medical Command's focus is to identify, explore, and demonstrate key technologies to overcome medical and military unique technology barriers. Programs include development projects for Army service level support. The Defense Center of Excellence (DCoE) programs and products are used to drive innovation across the continuum of care by identifying treatment options and other clinical and research methods.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Defense Center of Excellence (Army)	-	-	1.225
Description: The Army Medical Command's focus is to identify, explore, and demonstrate key technologies to overcome medical and military unique technology barriers. Programs include development projects for Army service level support. The Defense Center of Excellence (DCoE) programs and products are used to drive innovation across the continuum of care by identifying treatment options and other clinical and research methods			
FY 2013 Accomplishments: Accomplishments noted and funded under Project 423A.			
FY 2014 Plans: Plans noted and funded under Project 423A.			
FY 2015 Plans: FY15 funds will be used to continue the finalization of the multi-phase upgrades and redesigns of the afterdeployment.org website. This website will provide self-care tools to assist with a range of adjustment concerns (combat stress, sleep problems, anger management, etc.), with an emphasis on exercise-based interactivity, community support, and multi-media applications. Funds will also be used to continue the final phase of development for the T2 Toolkit (T2T) that was focused on the new generation of PH Mobile Apps that enhanced many areas of PH for DoD service members, family, and veterans.			
Accomplishments/Planned Programs Subtotals	-	-	1.225

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 423B / *Defense Center of Excellence (Army)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program											Date: March 2014	
Appropriation/Budget Activity 0130 / 2					R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*				Project (Number/Name) 435A / *NICOE Continuity Management Tool*			
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
435A: *NICOE Continuity Management Tool*	2.855	-	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The NICoE Continuity Management Tool (NCMT) is a business intelligence tool to perform healthcare modeling and analysis of NICoE activities.

Major capabilities defined by the NICoE in Jun 2009 and refined in Jun 2010 prior to the program procurement in Sep 2010, are subsystems that make up the NCMT end-to-end system, and were prioritized in the following order: Continuity Management Subsystem, Scheduling Subsystem, Clinical Subsystem, Research Subsystem, Training and Education Subsystem, Administration Subsystem.

Continuity Management Subsystem: Records every interaction with a particular Warrior and his or her Family as one entity to manage initial contact, referral, screening, intake, pre-admission, admission, discharge and follow-up processes.

Scheduling Subsystem: Captures, organizes, displays the complex schedules of the NICoE. Used to manage patient appointments, the utilization of facility resources including treatment rooms, modalities, provider staff and support staff.

Clinical Subsystem: A clinical application and clinical database that includes the functions that allow the user to store, classify, analyze, retrieve, interpret, present clinical data. Allows the visualization of all of the various components of the patient's health record: radiology, pathology, lab results, neurological assessments, etc.

Research Subsystem: Consists of the research database and the applications that allow the user to store, classify, analyze, retrieve, interpret, present data. Allows NICoE to aggregate data from disparate systems, both within the NICoE and from partner organizations, helping the research move faster, with more agility, and with purpose and direction supported by validated facts. Allows researchers to address many data challenges from a single system and transforms the way they do research.

Training and Education Subsystem: Provides the ability to share relevant research, diagnosis, treatment information with authorized users.

Administration Subsystem: Provides the ability to manage a portfolio of projects related to continuity of care, clinical operations, research, training and education functions in the NICoE.

The NCMT is supported by Three Contracts: Hosting (Provides Hardware, Software, Maintenance), System Integration (Implements NICoE Functional Requirements, Turns NICoE Ideas and Goals into Computer Screens, Templates, Applications – Capabilities) and Decision Support (Acquisition Management, Requirements Definition, Implementation Planning).
The NICoE's missions are to:

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 435A / *NICOE Continuity Management Tool*

1) Explore novel, promising, and futuristic solutions to the complex spectrum of combat brain injury from TBI to posttraumatic stress disorder (PTSD) and other psychological injuries;

2) Ensure – through continuous outreach and high quality health care – that America embraces those who have served and sacrificed so much on its behalf; and

3) Train the next generation of providers in the most effective approaches to prevention, detection, and treatment options.

Currently the established AHLTA specification does not adequately support the specialized care and continuity management integration necessary to support NICoE clinical operations and research. Additionally, AHLTA does not support the data mining and pattern recognition requirements of the NICoE.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: NICOE Continuity Management Tool	-	-	-
Description: The NCMT is a tool designed to perform healthcare modeling and analysis of NICoE activities. Major capabilities include Continuity Management, Scheduling, Clinical Database, Research Database, Training and Education, and Administration.			
FY 2013 Accomplishments: All activities and milestones are ongoing.			
FY 2014 Plans: No funding programmed.			
FY 2015 Plans: No Funding Programmed.			
Accomplishments/Planned Programs Subtotals	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• 4187 807783: *NCMT*	-	-	-	-	-	-	-	-	-	Continuing	Continuing
• 4187 807781: *NCMT*	3.683	3.819	3.961	-	3.961	4.107	4.259	4.332	-	Continuing	Continuing
• 1690 807781: *HEIS*	28.524	-	-	-	-	-	-	-	-	Continuing	Continuing
• 4859 807781: *JMED*	-	-	-	-	-	-	-	-	-	Continuing	Continuing
• 4940 807781: *JTFCMI*	-	39.170	40.792	-	40.792	41.610	42.395	43.267	-	Continuing	Continuing
• 4940 807720: *JTFCMI*	-	-	4.600	-	4.600	-	-	-	-	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 435A / *NICOE Continuity Management Tool*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• 4273 807781: *Engineering and Deployment*	-	-	-	-	-	-	-	-	-	Continuing	Continuing
• 4280 807721: *Engineering and Deployment*	2.030	-	-	-	-	-	-	-	-	Continuing	Continuing
• 4361 807781: *IA Operational Resiliency*	-	-	-	-	-	-	-	-	-	Continuing	Continuing
• 4126 807781: *Computer Network Defense*	-	-	-	-	-	-	-	-	-	Continuing	Continuing
• 4111 807781: *Computer Network Defense*	-	0.463	0.473	-	0.473	0.482	0.492	0.502	-	Continuing	Continuing
• 4165 807781: *Computer Network Defense*	-	-	-	-	-	-	-	-	-	Continuing	Continuing
• 4177 807781: *Computer Network Defense*	-	-	-	-	-	-	-	-	-	Continuing	Continuing
• 4364 807781: *Workforce Development*	-	-	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

This requirement is currently contracted through the USA Medical Research Activity. The vender is Evolvent Technologies Inc.

E. Performance Metrics

This performance metrics or milestones shall include, but is not limited to:

Coordination with Government representatives
Review, evaluation and transition of current support services
Transition of historic data to new contractor system
Government-approved training and certification process
Transfer of hardware warranties and software licenses
Transfer of all System/Tool documentation to include, at a minimum: user manuals, system administration manuals, training materials, disaster recovery manual, requirements traceability matrix, configuration control documents and all other documents required to operate, maintain and administer systems and tools

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 435A / *NICOE Continuity Management Tool*

If another contractor follows this contractor with work related to this work, this contractor will provide any developed source code (compiled and uncompiled, including all versions, maintenance updates and patches) with written instructions for the source code on which this contractor has worked, so that an experienced software engineer, previously not familiar with the source code can understand and efficiently work with the source code. In addition, this contractor will provide for 30 days, a software engineer (or person of comparable work level) with significant experience working with the source code, to assist the new contractor
Orientation phase and program to introduce Government personnel, programs, and users to the Contractor's team, tools, methodologies, and business processes
Disposition of Contractor purchased Government owned assets, including facilities, equipment, furniture, phone lines, computer equipment, etc.
Transfer of Government Furnished Equipment (GFE) and Government Furnished Information (GFI), and GFE inventory management assistance
Applicable TMA debriefing and personnel out-processing procedures
Turn-in of all government keys, ID/access cards, and security codes.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 446A / *Disability Mediation Service (DMS)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
446A: *Disability Mediation Service (DMS)*	-	-	0.559	0.382	-	0.382	0.433	0.445	0.588	0.666	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

"Disability Mediation Service (DMS):
The VTA (Veteran's Tracking Application) has been the primary system to track, record, and report data for the IDES (Integrated Disability Evaluation System) process. The VTA is scheduled to sun-set, by VA (Veterans Affairs), and the data is being moved to another application. Migration of VTA to another application creates the requirement to allow data exchange between Service non-medical case management and new VA DES (Disability Evaluation System) IT application. The BEC (Benefits Executive Council) is looking to create a DMS (Disability Mediation Service), which is an integrator between the Services and VA.
The DMS will facilitate the improvement of non-medical case management tracking and IDES data/information management. It will eliminate redundant data entry within DoD (Department of Defense), improving data quality by capturing more data for operational reporting from the Services and WCP, decrease backlog by eliminating data entry duplication, and minimize impact to DoD Services by allowing the Services to continue using their existing/planned systems without requiring retraining on a new applications.
The DMS will be created from existing technology. It will provide a mediation service to help isolate each system from changes and uniqueness in the other systems and allow the Services and WCP to report and drill down on data that we capture during the exchange. This IT solution will not replace current DoD systems, but will require some modifications and enhancements to those systems to support the date exchange. WCP will support development costs for these efforts. Services will assume responsibility and POM costs for modifications, enhancements, and maintenance in the out years."

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Disability Mediation Service (DMS)	-	0.559	0.382
Description: The VTA (Veteran's Tracking Application) has been the primary system to track, record, and report data for the IDES (Integrated Disability Evaluation System) process. The VTA is scheduled to sun-set, by VA (Veterans Affairs), and the data is being moved to another application. Migration of VTA to another application creates the requirement to allow data exchange between Service non-medical case management and new VA DES (Disability Evaluation System) IT application. The BEC (Benefits Executive Council) is looking to create a DMS (Disability Mediation Service), which is an integrator between the Services and VA. The DMS will facilitate the improvement of non-medical case management tracking and IDES data/information management. It will eliminate redundant data entry within DoD (Department of Defense), improving data quality by capturing more data for operational reporting from the Services and WCP, decrease backlog by eliminating data entry duplication, and minimize impact to DoD Services by allowing the Services to continue using their existing/planned systems without requiring retraining on a new applications.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 446A / *Disability Mediation Service (DMS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
The DMS will be created from existing technology. It will provide a mediation service to help isolate each system from changes and uniqueness in the other systems and allow the Services and WCP to report and drill down on data that we capture during the exchange. This IT solution will not replace current DoD systems, but will require some modifications and enhancements to those systems to support the date exchange. WCP will support development costs for these efforts. Services will assume responsibility and POM costs for modifications, enhancements, and maintenance in the out years." ***FY 2013 Accomplishments:*** Realignment in FY 2014 ***FY 2014 Plans:*** Migration of VTA to another application creates the requirement to allow data exchange between Service non-medical case management and new VA DES (Disability Evaluation System) IT application. The BEC (Benefits Executive Council) is looking to create a DMS (Disability Mediation Service), which is an integrator between the Services and VA. The DMS will be created from existing technology. It will provide a mediation service to help isolate each system from changes and uniqueness in the other systems and allow the Services and WCP to report and drill down on data that we capture during the exchange. This IT solution will not replace current DoD systems, but will require some modifications and enhancements to those systems to support the date exchange. WCP will support development costs for these efforts. ***FY 2015 Plans:*** Migration of VTA to another application creates the requirement to allow data exchange between Service non-medical case management and new VA DES (Disability Evaluation System) IT application. The BEC (Benefits Executive Council) is looking to create a DMS (Disability Mediation Service), which is an integrator between the Services and VA. The DMS will be created from existing technology. It will provide a mediation service to help isolate each system from changes and uniqueness in the other systems and allow the Services and WCP to report and drill down on data that we capture during the exchange. This IT solution will not replace current DoD systems, but will require some modifications and enhancements to those systems to support the date exchange. WCP will support development costs for these efforts.			
Accomplishments/Planned Programs Subtotals	-	0.559	0.382

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 446A / *Disability Mediation Service (DMS)*

E. Performance Metrics

To be determined when an approach has been determined.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 480C / *Defense Medical Logistics Standard Support (DMLSS) (Tri-Service)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
480C: *Defense Medical Logistics Standard Support (DMLSS) (Tri-Service)*	5.370	-	-	3.978	-	3.978	1.933	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Defense Medical Logistics Standard Support (DMLSS) provides the Military Medical Departments (Army, Navy, and Air Force MilDeps) one standard DoD medical logistics system. DMLSS provides the healthcare driven capability to support the medical logistics needs of the DoD community for critical medical commodities - pharmaceuticals and medical/surgical supplies across the continuum of care from the battlefield to tertiary care at a major DoD medical center. This capability is enabled by the partnership of the Defense Logistics Agency (DLA) Troop Support and the MHS providing an industry to practitioner supply chain for the medical commodity. The DLA DMLSS Wholesale (DMLSS-W) applications are funded by DLA while the garrison medical treatment facilities and theater applications are funded by the Defense Health Program. The current DMLSS system provides full spectrum capability for medical logistics management in a direct care environment. Basic functionality includes stock control, Prime Vendor operations, preparation of procurement documents, research and price comparison for products, property accounting, biomedical maintenance operations, capital equipment, property management, inventory, and a facility management application that supports the operations of a fixed medical treatment facility physical plant and supports Joint Commission on the Accreditation of Healthcare Organizations' (JCAHO) accreditation requirements. DMLSS, in coordination with Defense Health Information Management System (DHIMS), is providing to the Services and the Combatant Commanders the functional logistics capabilities necessary to rapidly project and sustain joint medical capabilities for medical logistics management of theater medical materiel operations. Current applications also deployed to the theater include the DMLSS Customer Assistance Module (DCAM), a medical logistics ordering tool that allows users to view their supplier's catalog and generate electronic orders. Primarily focused on the theater environment, DCAM automates the Class VIII supply process at the lower levels of care, and allows non-logisticians, who maintain their medical supplies as an additional duty, to electronically exchange catalog, order, and status information with their supply activity.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Defense Medical Logistics Standard Support (DMLSS) (Tri-Service)	-	-	3.978
Description: Development, integration and modernization of DMLSS modules. FY 2012 includes funding for Patient Movement Item Tracking System (PMITS) The Patient Movement Items (PMI) program calls for a designated pool of medical equipment that is necessary to support a patient during the aero-medical evacuation (AE) process. PMITS consists of an integrated network of distribution sites to have an automated system that would track and manage this inventory			
FY 2013 Accomplishments: Funding was reduce due to Sequestration. Pre-Sequestration plans were to:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 480C / *Defense Medical Logistics Standard Support (DMLSS) (Tri-Service)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
-Improve the ordering and cataloging functionality of the Medical Master Catalog (MMC), including Real-Time Information services to increase the frequency of connections from the DMLSS servers located at each Military Treatment Facility to the central DMLSS database. -Continued efforts on Common Operating Picture (COP) dashboard in Joint Medical Asset Repository (JMAR) to provide a top down visibility of service contract data across the Defense Medical Logistics Enterprise. ***FY 2014 Plans:*** No funding programmed. ***FY 2015 Plans:*** Development/integration efforts that support additional shared services for logistics, enabling new business processes for pharmaceutical management.			
Accomplishments/Planned Programs Subtotals	-	-	3.978

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807793HP: *MHS Tri-Service Information*	28.633	29.637	30.291	-	30.291	30.889	31.416	31.961	32.506	Continuing	Continuing
• BA-3, 0807721HP: *Replacement/Modernization*	-	-	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

Each program establishes performance measurements which are usually included in the MHS IT Annual Performance Plan. Program cost, schedule and performance are measured periodically using a systematic approach. The results of these measurements are presented to management on a regular basis in various as part of the Integrated Product and Process Development (IPPD) process, In Process Reviews (IPRs), or other reviews to determine program effectiveness and provide new direction as needed to ensure the efficient use of resources. Performance metrics for specific projects may be viewed at the OMB Federal IT Dashboard website.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 480D / *Defense Occupational and Environmental Health Readiness System - Industrial Hygiene (DOEHRS-IH) (Tri-Service)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
480D: *Defense Occupational and Environmental Health Readiness System - Industrial Hygiene (DOEHRS-IH) (Tri-Service)*	3.372	-	1.507	-	-	-	-	3.633	3.694	2.803	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Defense Occupational and Environmental Health Readiness System - Industrial Hygiene (DOEHRS-IH) is a comprehensive, automated information system that provides a single point for assembling, comparing, using, evaluating, and storing occupational personnel exposure information, workplace environmental monitoring data, personnel protective equipment usage data, observation of work practices data, and employee health hazard educational data. DOEHRS-IH will provide for the definition, collection and analysis platform to generate and maintain a Service Member´s Longitudinal Exposure Record. DOEHRS-IH will describe the exposure assessment, identify similar exposure groups, establish a longitudinal exposure record baseline to facilitate post-deployment follow-up, and provide information to enable exposure-based medical surveillance and risk reduction.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Defense Occupational and Environmental Health Readiness System - Industrial Hygiene (DOEHRS-IH) (Tri-Service)	-	1.507	-
Description: Configure, enhance and interface DOEHRS-IH modules. ***FY 2013 Accomplishments:*** Funding was reduce due to Departmental Fiscal Guidance. ***FY 2014 Plans:*** Configure Hazardous Material (HAZMAT) Material Safety Data Sheets (MSDS). MSDS are fundamental and authoritative resources for accessing standardized hazard information related to materials and products used in the workplace. MSDS is mandated by OSHA 29 CFR 1910.120. ***FY 2015 Plans:*** No funding programmed.			
Accomplishments/Planned Programs Subtotals	-	1.507	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 480D / *Defense Occupational and Environmental Health Readiness System - Industrial Hygiene (DOEHRS-IH) (Tri-Service)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807793HP: *MHS Tri-Service Information*	-	8.474	-	-	-	8.126	8.333	8.610	8.765	Continuing	Continuing
• BA-3, 0807721HP: *Replacement/Modernization*	-	-	-	-	-	0.113	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

Each program establishes performance measurements which are usually included in the MHS IT Annual Performance Plan. Program cost, schedule and performance are measured periodically using a systematic approach. The results of these measurements are presented to management on a regular basis in various as part of the Integrated Product and Process Development (IPPD) process, In Process Reviews (IPRs), or other reviews to determine program effectiveness and provide new direction as needed to ensure the efficient use of resources. Performance metrics for specific projects may be viewed at the OMB Federal IT Dashboard website.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 480F / *Executive Information/Decision Support (EI/DS) (Tri-Service)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
480F: *Executive Information/ Decision Support (EI/DS) (Tri-Service)*	3.127	-	4.932	-	-	-	2.551	1.791	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

EI/DS is comprised of a central datamart Military Health System Data Repository (MDR) and several smaller datamarts: MHS Management Analysis and Reporting Tool (M2), Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE), and Purchased Care Operations Systems -TRICARE Encounter Data (TED) & Patient Encounter Processing and Reporting (PEPR). Many of these operate within a Business Objects XI (BOXI) environment. EI/DS manages receipt, processing, and storage of over 155 terabytes of data from both Military Treatment Facilities (MTF) and the TRICARE purchased care network systems. These data include inpatient dispositions, outpatient encounters, laboratory, radiology, and pharmacy workload, TRICARE network patient encounter records, TRICARE mail order pharmacy patient encounter records, beneficiary demographics, MTF workload and cost information, eligibility and enrollment, Pharmacy Data Transaction Service data, customer satisfaction surveys, and data associated with the Wounded Warrior care. EI/DS provides centralized collection, storage and availability of data, in various data marts, to managers, clinicians, and analysts for the management of the business of health care.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Executive Inforamtion/Decision Support (EI/DS) (Tri-Service)	-	4.932	-
Description: Development, modernization, upgrades and testing for various EI/DS modules.			
FY 2013 Accomplishments: Funding was reduced due to Departmental Fiscal Guidance.			
FY 2014 Plans: Upgrade the EIDS M2 application to a new client component - WEBi and WEBi Rich. BOXI provides the platform for accessing and analyzing embedded data from multiple sources - data are presented as reports. Replace COGNOS with Business Objects Common Services (BCS) and business intelligence functions within EI/DS TED/PEPR application, in support of a new software solution being integrated into the existing suite of applications. Begin implementation of an Integrated Dashboard & Fused Detection Algorithm within ESSENCE that 'fuses' signals across all data sources and applies differential weighting and advanced statistical approach .			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 480F / *Executive Information/Decision Support (EI/DS) (Tri-Service)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Provide the capability to download the National Plan and Provider Enumeration System (NPPES) file and to match the National Provider Identifier (NPI) and Provider Record within TED; as well as development associated with the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE). Additionally, MDR plans to upgrade the SAS Computing Environment to utilize the SAS Office Analytics software suite, which includes SAS Enterprise Guide. This upgrade will provide a much enhanced user interface for MDR users. ***FY 2015 Plans:*** No funding programmed.			
Accomplishments/Planned Programs Subtotals	-	4.932	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807793HP: *MHS Tri-Service Information*	-	43.353	29.940	-	29.940	31.070	32.080	32.586	33.298	Continuing	Continuing
• BA-3, 0807721HP: *Replacement/Modernization*	-	0.108	-	-	-	-	-	-	-	Continuing	Continuing
• BA-1, 0807752HP: *Miscellaneous Support Activities*	-	15.695	16.040	-	16.040	16.333	16.632	16.935	17.257	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

Each program establishes performance measurements which are usually included in the MHS IT Annual Performance Plan. Program cost, schedule and performance are measured periodically using a systematic approach. The results of these measurements are presented to management on a regular basis in various as part of the Integrated Product and Process Development (IPPD) process, In Process Reviews (IPRs), or other reviews to determine program effectiveness and provide new direction as needed to ensure the efficient use of resources. Performance metrics for specific projects may be viewed at the OMB Federal IT Dashboard website.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 480G / *Health Artifact and Image Management Solution (HAIMS) (Tri-Service)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
480G: *Health Artifact and Image Management Solution (HAIMS) (Tri-Service)*	-	-	3.884	0.304	-	0.304	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Health Artifact and Image Management Solution (HAIMS) enables the DoD and the VA healthcare providers to have global access and awareness of artifacts and images (A&I) generated during the healthcare delivery process. HAIMS will provide the new capability for users throughout the MHS to be aware and have access to A&I that have been registered with the central "system", currently on local workstations and Military Treatment Facility (MTF) Picture Archive and Communications Systems (PACs). As patients move through the continuum of care from Continental United States to Theater and then return to DoD sustaining bases facilities, healthcare A&I moves seamlessly and simultaneously with the patient. This advances several MHS strategy initiatives such as achievement of paperless record, global access of Wounded Warrior scanned documents, and an alternative to finding storage space for paper records of merging MTFs. HAIMS will supply access to VHA and other external A&I both inside and outside the Military Health System (MHS) Electronic Health Record (EHR). Funding has been provided within this program element in prior years for HAIMS before if was identified as its own system in the budget cycle. HAIMS will experience Incremental development as each new requirement is identified for FY 2014 and FY 2015.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Health Artifact and Image Management Solution (HAIMS) (Tri-Service)	-	3.884	0.304
Description: Integrate new functionality into HAIMS.			
FY 2013 Accomplishments: Funding was reduced due to Departmental Fiscal Guidance.			
FY 2014 Plans: Develop Graphical User Interface (GUI) for asset preview capability. Provide full functionality with one account (w/o multiple logins). Interface with Veterans Benefits Administration. Reduce Social Security Numbers in the application.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 480G / *Health Artifact and Image Management Solution (HAIMS) (Tri-Service)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Develop interfaces for Health Readiness Record, additional Picture Archiving and Communications System (PACS) based systems, additional non-PACS systems, and dental repositories. ***FY 2015 Plans:*** Complete interface activities began in FY14 RDT&E.			
Accomplishments/Planned Programs Subtotals	-	3.884	0.304

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807793HP: *MHS Tri-Service Information*	-	13.555	14.953	-	14.953	16.024	17.304	18.690	19.717	Continuing	Continuing
• BA-3, 0807721HP: *Replacement/Modernization*	-	6.928	1.870	-	1.870	6.298	11.726	12.043	13.732	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

Each program establishes performance measurements which are usually included in the MHS IT Annual Performance Plan. Program cost, schedule and performance are measured periodically using a systematic approach. The results of these measurements are presented to management on a regular basis in various as part of the Integrated Product and Process Development (IPPD) process, In Process Reviews (IPRs), or other reviews to determine program effectiveness and provide new direction as needed to ensure the efficient use of resources.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 480K / *integrated Federal Health Registry Framework (Tri-Service)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
480K: *integrated Federal Health Registry Framework (Tri-Service)*	-	-	2.591	1.093	-	1.093	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The purpose of an integrated Federal Health Registry capability is to provide a viable solution to fulfill a critical need for improved sharing and exchange of Service member and Veteran health information and data between the Department of Defense - Health Affairs and the Department of Veterans Affairs-Veterans Health Administration communities of interest (COIs) as mandated in Section 1635 of the 2008 National Defense Authorization Act (NDAA, 2008). This ability to share and exchange vital health care data between the respective specialties of care is essential to conduct longitudinal analyses necessary to improve patient care and quality of life outcomes. To maximize efficiencies and most effectively meet the needs of the functional communities, the Centers of Excellence (CoEs) have developed a consolidated framework solution for an integrated Federal Health Registry capability. This effort provides a comprehensive solution that meets the specialty care needs of each of the Services and Veteran Affairs that are represented by the Joint DoD and VA CoEs, (Army-Extremity Trauma and Amputation Center of Excellence; TMA-Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury; Navy-DoD/VA Vision Center of Excellence; Air Force-Hearing Center of Excellence; and JTFCAPMED-National Intrepid Center of Excellence).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Federated Registry Framework (Tri-Service)	-	2.591	1.093
Description: Develop, integrate and test a common registry. ***FY 2013 Accomplishments:*** Funding was reduced due to Departmental Fiscal Guidance. ***FY 2014 Plans:*** Funding to support a consolidated technical approach for the Centers of Excellence, which will provide a repeatable process that includes integration of their registry requirements into federated subspecialty clinical data elements that were determined by representative subject matter experts from the Tri-Services and Veteran's Affairs. ***FY 2015 Plans:*** Funding to support a consolidated technical approach for the Centers of Excellence, which will provide a repeatable process that includes integration of their registry requirements into federated subspecialty clinical data elements that were determined by representative subject matter experts from the Tri-Services and Veteran's Affairs.			
Accomplishments/Planned Programs Subtotals	-	2.591	1.093

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 480K / *integrated Federal Health Registry Framework (Tri-Service)*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807793HP: *MHS Tri-Service Information*	-	0.898	1.320	-	1.320	1.505	1.552	1.601	1.630	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

To be determined when an approach has been determined.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 480P / *Other Related Technical Activities (Tri-Service)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
480P: *Other Related Technical Activities (Tri-Service)*	4.123	-	5.162	2.990	-	2.990	-	1.683	3.500	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Other Related Technical Activities includes funding for Information Technology activities common to multiple or all Tri-Service systems/programs and can not be associated with any one individual Tri-Service initiative, which includes enterprise Messaging and other common IT services requirements. Funding is included in FY 2012 for International Classification of Diseases and Related Health Problems 10th edition (ICD-10). ICD-10 funding for FY 2013 and out is shown in the appropriate initiative's Accomplishments/Planned Porgram sections within this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Other Related Technical Activities (Tri-Service)	-	5.162	2.990
Description: Develop, integrate, test of activities common to multiple or all Tri-Service IT activities. ***FY 2013 Accomplishments:*** Funding was reduce due to Departmental Fiscal Guidance. ***FY 2014 Plans:*** Funding programmed for development and testing of planned common services being developed in support of messaging components, message level security, service registry, XML firewall/accelerator and common code services. Additionally funding is to support Wounded Warrior enhancements as they are identified. ***FY 2015 Plans:*** Funding in support of Health Information Technology Shared Services investment.			
Accomplishments/Planned Programs Subtotals	-	5.162	2.990

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807793HP: *MHS Tri-Service Information*	-	-	-	-	-	-	-	-	-	Continuing	Continuing
• BA-3, 0807721HP: *Replacement/Modernization*	-	-	2.100	-	2.100	-	2.310	2.730	-	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 480P / *Other Related Technical Activities (Tri-Service)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

Each activity establishes performance measurements. Program cost, schedule and performance are measured periodically using a systematic approach. Since this is an enterprise initiative which crosses mutliple initiatives, performance metrics of the common activities are part of and/or contributing factors in the measurement of the performacne metrics of the individual initiatives.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 480R / *TMA E-Commerce (TMA)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
480R: *TMA E-Commerce (TMA)*	2.934	-	5.733	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The DHP, RDT&E appropriation includes the following TMA initiatives: Electronic Commerce System(E-Commerce): This system was developed for centralized collection, integration, and reporting of accurate purchased care contracting and financial data. It provides an integrated set of data reports from multiple data sources to management, as well as tools to control the end-to-end program change management process. E-Commerce replaces multiple legacy systems. E-Commerce consists of several major subsystems including: CM subsystem utilizing Prism software to support contract action development and documentation; the RM subsystem utilizing Oracle Federal Financials and TED interface software to support the budgeting, accounting, case recoupment, and disbursement processes; the document management subsystem utilizing Documentum software to provide electronic storage, management, and retrieval of contract files; Management Tracking and Reporting subsystem utilizing custom software to provide reports to assist in the management and tracking of changes to the managed care contracts as well as current and out year liabilities; the Purchased Care Web site that provides up-to-date financial information for both TMA and the Services concerning the military treatment facilities' (MTFs') expenditures for MTF enrollee purchased care and supplemental care. E-Commerce includes 5 major subsystems and over 60 servers supporting development, test, and production. The system will be utilized by several hundred users in more than 7 different organizations. Project oversight and coordination must be provided to ensure that the needs of the disparate organizations are met without impacting the system performance or support to any individual user. Server configurations must be kept current in terms of security policies, user authorizations, and interactions with other systems and functions. All of these activities must be managed and coordinated on a daily basis.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: TMA E-Commerce (TMA)	-	5.733	-
Description: The DHP, RDT&E appropriation includes the following TMA initiatives: Electronic Commerce System(E-Commerce): This system was developed for centralized collection, integration, and reporting of accurate purchased care contracting and financial data. It provides an integrated set of data reports from multiple data sources to management, as well as tools to control the end-to-end program change management process. E-Commerce replaces multiple legacy systems. E-Commerce consists of several major subsystems including: CM subsystem utilizing Prism software to support contract action development and documentation; the RM subsystem utilizing Oracle Federal Financials and TED interface software to support the budgeting, accounting, case recoupment, and disbursement processes; the document management subsystem utilizing Documentum software to provide electronic storage, management, and retrieval of contract files; Management Tracking and Reporting subsystem utilizing custom software to provide reports to assist in the management and tracking of changes to the managed care contracts as well as current and out year liabilities; the Purchased Care Web site that provides up-to-date financial information for both TMA and the Services concerning the military treatment facilities' (MTFs') expenditures for MTF enrollee purchased care and supplemental care. E-Commerce includes 5 major subsystems and over 60 servers supporting development,			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 480R / *TMA E-Commerce (TMA)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
test, and production. The system will be utilized by several hundred users in more than 7 different organizations. Project oversight and coordination must be provided to ensure that the needs of the disparate organizations are met without impacting the system performance or support to any individual user. Server configurations must be kept current in terms of security policies, user authorizations, and interactions with other systems and functions. All of these activities must be managed and coordinated on a daily basis. ***FY 2013 Accomplishments:*** Funding was reduce due Departmental Fiscal Guidance. Plans were: Continue compliance enhancements and modernization of financial processing and reporting. Complete the modernization of financial processing to provide contractors ERP capability to submit a payment request and receiving report using an electronic form. Sunset the legacy technology for the health care claims processing. Enhance application functionality to respond to changes in health care policy and guidance, to improve operational efficiency, and to continue providing operational personnel with effective financial, contract management, and acquisition support capabilities. Enhance health care claims and financial processing to accommodate changes in health care requirements, and to improve contractor performance assessment and deliverable processing. In addition, in response to changes in pharmacy program management, modernize pharmacy financial processing and reporting using the existing business intelligence infrastructure. Implement accounting improvements to support user interface processing, audit support, financial and audit reporting, and enterprise budget management. Finally, implement software changes, mandated by Congress and the DoD, to accommodate financial application health care policy modifications, IPv6, and BEA SFIS changes. ***FY 2014 Plans:*** - Continue compliance enhancements and modernization of financial processing and reporting. Enhance application functionality to respond to changes in health care policy and guidance, to improve operational efficiency, and to continue providing operational personnel with effective financial, contract management, and acquisition support capabilities. Enhance health care claims and financial processing to accommodate changes in health care requirements and to improve contractor performance assessment and deliverable processing. Complete the modernization of pharmacy financial processing and reporting and the implementation of IPV6. Implement accounting improvements to support user interface processing, audit support, financial and audit reporting, and enterprise budget management. Finally, implement software changes, mandated by Congress and the DoD, to accommodate financial application health care policy modifications, and BEA SFIS changes. ***FY 2015 Plans:*** -Program transfer in FY 2015 to project 482A.			
Accomplishments/Planned Programs Subtotals	-	5.733	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 480R / *TMA E-Commerce (TMA)*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807752HP: *Miscellaneous Support Activities*	16.404	12.857	-	-	-	-	-	-	-	Continuing	Continuing
• BA-3, 0807721HP: *Replacement/Modernization*	-	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

The benchmark performance metric for transition of research supported in this PE will be the attainment of a maturity level that is typical of TRL8.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 482A / *E-Commerce (DHA)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
482A: *E-Commerce (DHA)*	-	-	-	2.494	-	2.494	2.766	2.829	3.704	4.200	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The DHP, RDT&E appropriation includes the following TMA initiatives: Electronic Commerce System(E-Commerce): This system was developed for centralized collection, integration, and reporting of accurate purchased care contracting and financial data. It provides an integrated set of data reports from multiple data sources to management, as well as tools to control the end-to-end program change management process. E-Commerce replaces multiple legacy systems. E-Commerce consists of several major subsystems including: CM subsystem utilizing Prism software to support contract action development and documentation; the RM subsystem utilizing Oracle Federal Financials and TED interface software to support the budgeting, accounting, case recoupment, and disbursement processes; the document management subsystem utilizing Documentum software to provide electronic storage, management, and retrieval of contract files; Management Tracking and Reporting subsystem utilizing custom software to provide reports to assist in the management and tracking of changes to the managed care contracts as well as current and out year liabilities; the Purchased Care Web site that provides up-to-date financial information for both TMA and the Services concerning the military treatment facilities' (MTFs') expenditures for MTF enrollee purchased care and supplemental care. E-Commerce includes 5 major subsystems and over 60 servers supporting development, test, and production. The system will be utilized by several hundred users in more than 7 different organizations. Project oversight and coordination must be provided to ensure that the needs of the disparate organizations are met without impacting the system performance or support to any individual user. Server configurations must be kept current in terms of security policies, user authorizations, and interactions with other systems and functions. All of these activities must be managed and coordinated on a daily basis.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: E-Commerce (DHA)	-	-	2.494
Description: The DHP, RDT&E appropriation includes the following TMA initiatives: Electronic Commerce System(E-Commerce): This system was developed for centralized collection, integration, and reporting of accurate purchased care contracting and financial data. It provides an integrated set of data reports from multiple data sources to management, as well as tools to control the end-to-end program change management process. E-Commerce replaces multiple legacy systems. E-Commerce consists of several major subsystems including: CM subsystem utilizing Prism software to support contract action development and documentation; the RM subsystem utilizing Oracle Federal Financials and TED interface software to support the budgeting, accounting, case recoupment, and disbursement processes; the document management subsystem utilizing Documentum software to provide electronic storage, management, and retrieval of contract files; Management Tracking and Reporting subsystem utilizing custom software to provide reports to assist in the management and tracking of changes to the managed care contracts as well as current and out year liabilities; the Purchased Care Web site that provides up-to-date financial information for both TMA and the Services concerning the military treatment facilities' (MTFs') expenditures for MTF enrollee purchased care and supplemental care. E-Commerce includes 5 major subsystems and over 60 servers supporting development,			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 482A / *E-Commerce (DHA)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
test, and production. The system will be utilized by several hundred users in more than 7 different organizations. Project oversight and coordination must be provided to ensure that the needs of the disparate organizations are met without impacting the system performance or support to any individual user. Server configurations must be kept current in terms of security policies, user authorizations, and interactions with other systems and functions. All of these activities must be managed and coordinated on a daily basis. ***FY 2013 Accomplishments:*** Accomplishments noted and funded under Project 480R. ***FY 2014 Plans:*** Plans noted and funded under Project Project 480R. ***FY 2015 Plans:*** - Continue compliance enhancements and modernization of financial processing and reporting. Enhance application functionality to respond to changes in health care policy and guidance, to improve operational efficiency, and to continue providing operational personnel with effective financial, contract management, and acquisition support capabilities. Enhance health care claims and financial processing to accommodate changes in health care requirements and to improve contractor performance assessment and deliverable processing. Implement accounting improvements to support user interface processing, audit support, financial and audit reporting, and enterprise budget management. Finally, implement software changes, mandated by Congress and the DoD, to accommodate financial application health care policy modifications, and BEA SFIS changes.			
Accomplishments/Planned Programs Subtotals	-	-	2.494

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807752HP: *Miscellaneous Support Activities*	-	-	14.443	-	14.443	14.615	14.933	14.438	14.286	Continuing	Continuing

Remarks

Program transfer from project 480R.

D. Acquisition Strategy

N/A

E. Performance Metrics

The benchmark performance metric for transition of research supported in this PE will be the attainment of a maturity level that is typical of TRL8.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 490I / *Navy Medicine Chief Information Officer*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
490I: *Navy Medicine Chief Information Officer*	2.106	-	4.286	2.192	-	2.192	2.052	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Navy Medicine CIO Management Operations - IM/IT RDT&E requests will be vetted through the Bureau of Navy Medicine (BUMED) Governance Process. BUMED IM/IT CIO Governance will monitor progress and milestones every six months.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Navy Medicine Chief Information Officer (CIO) Management Operations	-	4.286	2.192

Description: Navy Medicine CIO Management Operations - IM/IT RDT&E requests will be vetted through the Bureau of Navy Medicine (BUMED) Governance Process. BUMED IM/IT CIO Governance will monitor progress and milestones every six months.

FY 2013 Accomplishments:

No accomplishments were realized. FY13 funding was removed due to Departmental Fiscal Guidance.

FY 2014 Plans:

This is an ongoing activity recently enacted by the Navy Medicine IM/IT process which further defines/transforms future IM/IT Medical Program Enhancements and Medical Capabilities.

The development/integration of Defense Optical Fabrication Enterprise Management System (DOFEMS) into a fully automated system to support workload distribution, performance metrics, staffing requirements, supply management, calculation of operating costs from the current independently or manually DOFEMS system. This effort will be a web based centralized management tool and provide a standalone standard set of Lab Management software for all 26 Navy labs.

The re-design of HIV Management System (HMS) so that it is user friendly, minimizes the amount of time required to perform everyday tasks and prevents the need to maintain separate databases, automate and minimize functions that require manual assistance and assist in fulfilling new requirements.

The development/integration of the Corporate Dental System (CDS) will replace the current Navy Dental system, Dental Common Access System (DENCAS). The CDS is the Military Health System Enterprise solution providing for the accurate collection,

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 490I / *Navy Medicine Chief Information Officer*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
processing, and presentation of dental workload, readiness, scheduling, and digital radiographic information for both treatment operations and the oversight of management activities at all levels of the dental enterprise. ***FY 2015 Plans:*** This is an ongoing activity recently enacted by the Navy Medicine IM/IT process which further defines/transforms future IM/IT Medical Program Enhancements and Medical Capabilities.			
Accomplishments/Planned Programs Subtotals	-	4.286	2.192

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807781HP: *Non-Central Information Management/ Information Technology*	160.684	163.298	161.066	-	161.066	163.743	164.111	167.035	157.471	Continuing	Continuing
• BA-1, PE 0807795HP: *Base Communications - CONUS*	13.546	16.508	16.783	-	16.783	17.094	17.400	17.695	18.014	Continuing	Continuing
• BA-1, PE 0807995HP: *Base Communications - OCONUS*	2.448	2.417	2.459	-	2.459	2.506	2.550	2.596	2.643	Continuing	Continuing
• BA-3, PE 0807720HP: *Initial Outfitting*	0.544	-	-	-	-	-	-	-	-	Continuing	Continuing
• BA-3, PE 0807721HP: *Replacement/Modernization*	6.205	2.782	-	-	-	-	2.557	2.835	3.041	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 490J / *Navy Medicine Online*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
490J: *Navy Medicine Online*	1.369	-	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Navy Medicine Online System (NMO) is the designated data broker for Navy Medicine. NMO collects individual readiness information from legacy Navy Medicine data systems (i.e SAMS,DENCAS, MEDBOLTT, etc.). NMO transmits select information to MRRS to support DoD IMR reporting, DHIMS Force Health Protection, Master CMS, and other Navy systems. NMO also provides the programs used to manage the medical waiver process and to track USNA midshipmen medical issues. The goal of this RDT&E effort is to merge NMKMS into Navy Medicine Online (NMO) as a data broker, to establish a single operational data warehouse for Navy Medicine operational data, as well as to support programs for managing medical staffing planning and operational workload reports.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Navy Medicine Online (NMO)	-	-	-
Description: The Navy Medicine Online System (NMO) is the designated data broker for Navy Medicine. NMO collects individual readiness information from legacy Navy Medicine data systems (i.e SAMS,DENCAS, MEDBOLTT, etc.). NMO transmits select information to MRRS to support DoD IMR reporting, DHIMS Force Health Protection, Master CMS, and other Navy systems. NMO also provides the programs used to manage the medical waiver process and to track USNA midshipmen medical issues. The goal of this RDT&E effort is to merge NMKMS into Navy Medicine Online (NMO) as a data broker, to establish a single operational data warehouse for Navy Medicine operational data, as well as to support programs for managing medical staffing planning and operational workload reports. ***FY 2013 Accomplishments:*** Funding was reduced due to Departmental Fiscal Guidance. This project includes the re-design of HIV Management System (HMS) so that it is user friendly, minimizes the amount of time required to perform everyday tasks and prevents the need to maintain separate databases, automate and minimize functions that require manual assistance and assist in fulfilling new requirements. ***FY 2014 Plans:*** No funding programmed. ***FY 2015 Plans:*** No funding programmed.			
Accomplishments/Planned Programs Subtotals	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 490J / *Navy Medicine Online*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, PE 0807781HP: *Non-Central Information Management/ Information Technology*	1.763	1.851	1.930	-	1.930	1.983	2.042	2.079	2.116	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 480B / *Defense Medical Human Resources System (internet) (DMHRSi) (Tri-Service)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
480B: *Defense Medical Human Resources System (internet) (DMHRSi) (Tri-Service)*	0.585	-	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Defense Medical Human Resources System – internet (DMHRSi) enables the Services to standardize and optimize the management of human resource assets across the Military Health System (MHS). DMHRSi is a Web-based system that enables improved decision making by facilitating the collection and analysis of critical human resource data. It standardizes medical human resource information and provides enterprise-wide visibility for all categories of human resources (Active Duty, Reserve, Guard, civilian, contractor, and volunteer medical personnel); improves reporting of medical personnel readiness and; streamlines business processes to improve data quality for management decision making and managing the business; provides Tri-Service visibility of associated labor costs and is source for personnel cost data.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Defense Medical Human Resources System (internet) (DMHRSi) (Tri-Service)	-	-	-
Description: The Defense Medical Human Resources System – internet (DMHRSi) enables the Services to standardize and optimize the management of human resource assets across the Military Health System (MHS). DMHRSi is a Web-based system that enables improved decision making by facilitating the collection and analysis of critical human resource data. It standardizes medical human resource information and provides enterprise-wide visibility for all categories of human resources (Active Duty, Reserve, Guard, civilian, contractor, and volunteer medical personnel); improves reporting of medical personnel readiness and; streamlines business processes to improve data quality for management decision making and managing the business; provides Tri-Service visibility of associated labor costs and is source for personnel cost data. ***FY 2013 Accomplishments:*** No funding programmed. ***FY 2014 Plans:*** No funding programmed. ***FY 2015 Plans:*** No funding programmed.			
Accomplishments/Planned Programs Subtotals	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 480B / *Defense Medical Human Resources System (internet) (DMHRSi) (Tri-Service)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 480M / *Theather Medical Information Program - Joint (TMIP-J) (Tri-Service)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
480M: *Theather Medical Information Program - Joint (TMIP-J) (Tri-Service)*	28.731	-	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Theater Medical Information Program - Joint (TMIP-J) integrates components of the Military Health System sustaining base systems and the Services´ medical information systems to ensure timely interoperable medical support for mobilization, deployment and sustainment of all Theater and deployed forces in support of any mission. TMIP-J enhances the clinical care and information capture at all levels of care in Theater, transmits critical information to the Theater Commander, the evacuation chain for combat and non-combat casualties, and forges the theater links of the longitudinal health record to the sustaining base and the Department of Veterans Affairs. TMIP-J is the medical component of the Global Combat Support System. TMIP-J provides information at the point of care and to the Theater tactical and strategic decision makers through efficient, reliable data capture, and data transmission to a centralized Theater database. This delivers TMIP-J´s four pillars of information support through the electronic health record, integrated medical logistics, patient movement and tracking, and medical command and control through data aggregation, reporting and analysis tools for trend analysis and situational awareness. TMIP-J fulfills the premise of "Train as you fight" through the integration of components which are identical or analogous to systems from the sustaining base. TMIP-J adapts and integrates these systems to specific Theater requirements and assures their availability in the no- and low- communications settings of the deployed environment through store and forward capture and transmission technology.

TMIP-J RDT&E is reported under the program element 0605013 through FY 2013 inclusive, but will be reported under new program element 0605023 for FY 2014 and out.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Theather Medical Information Program - Joint (TMIP-J) (Tri-Service)	-	-	-
Description: The Theater Medical Information Program - Joint (TMIP-J) integrates components of the Military Health System sustaining base systems and the Services´ medical information systems to ensure timely interoperable medical support for mobilization, deployment and sustainment of all Theater and deployed forces in support of any mission. TMIP-J enhances the clinical care and information capture at all levels of care in Theater, transmits critical information to the Theater Commander, the evacuation chain for combat and non-combat casualties, and forges the theater links of the longitudinal health record to the sustaining base and the Department of Veterans Affairs. TMIP-J is the medical component of the Global Combat Support System. TMIP-J provides information at the point of care and to the Theater tactical and strategic decision makers through efficient, reliable data capture, and data transmission to a centralized Theater database. This delivers TMIP-J´s four pillars of information support through the electronic health record, integrated medical logistics, patient movement and tracking, and medical command and control through data aggregation, reporting and analysis tools for trend analysis and situational awareness. TMIP-J fulfills			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 480M / *Theather Medical Information Program - Joint (TMIP-J) (Tri-Service)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
the premise of "Train as you fight" through the integration of components which are identical or analogous to systems from the sustaining base. TMIP-J adapts and integrates these systems to specific Theater requirements and assures their availability in the no- and low- communications settings of the deployed environment through store and forward capture and transmission technology. TMIP-J RDT&E is reported under the program element 0605013 through FY 2013 inclusive, but will be reported under new program element 0605023 for FY 2014 and out. ***FY 2013 Accomplishments:*** Funding reduced due to Departmental Fiscal Guidance. ***FY 2014 Plans:*** No funding programmed. ***FY 2015 Plans:*** No funding programmed.			
Accomplishments/Planned Programs Subtotals	-	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 480Y / *Clinical Case Management (Tri-Service)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
480Y: *Clinical Case Management (Tri-Service)*	2.925	-	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Provides a seamless view of the care and the health of the patient from the origin of injury or illness to the end of the need for that episode of care. It will capture relevant events, information, documents and other data to support the overall improvement of the patient's condition utilizing medical Case Management practices. It will provide the ability to collect clinical information in support of the medical Case Manager's mission and will provide information gathered to MTFs and MSCSs.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Clinical Case Management (Tri-Service)	-	-	-
Description: Provides a seamless view of the care and the health of the patient from the origin of injury or illness to the end of the need for that episode of care. It will capture relevant events, information, documents and other data to support the overall improvement of the patient's condition utilizing medical Case Management practices. It will provide the ability to collect clinical information in support of the medical Case Manager's mission and will provide information gathered to MTFs and MSCSs. ***FY 2013 Accomplishments:*** No funding programmed. ***FY 2014 Plans:*** No funding programmed. ***FY 2015 Plans:*** No funding programmed.			
Accomplishments/Planned Programs Subtotals	-	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 480Y / *Clinical Case Management (Tri-Service)*

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 480Z / *Centralized Credentials and Quality Assurance System (CCQAS) (Tri-Service)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
480Z: *Centralized Credentials and Quality Assurance System (CCQAS) (Tri-Service)*	1.692	-	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Central Credentials Quality Assurance System (CCQAS) enables the military medical community to electronically manage the credentials, risk management, and adverse privileging actions of medical personnel and is hosted at secure Defense Information Systems Agency facility. It is deployed worldwide to over 1,350 professional affairs coordinators in 535 locations and contains nearly 60,000 credentials records for Active Duty, Reserve, Guard, Civil Service, contractors, and volunteers in the Military Health System. CCQAS tracks trends in medical malpractice claims in an effort to improve health care quality, ensure legal due process for clinicians undergoing adverse actions, and assist the Medical Treatment Facilities in meeting Joint Commission on Accreditation of Healthcare Organization´s accreditation standards.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Centralized Credentials and Quality Assurance System (CCQAS) (Tri-Service)	-	-	-
Description: The Central Credentials Quality Assurance System (CCQAS) enables the military medical community to electronically manage the credentials, risk management, and adverse privileging actions of medical personnel and is hosted at secure Defense Information Systems Agency facility. It is deployed worldwide to over 1,350 professional affairs coordinators in 535 locations and contains nearly 60,000 credentials records for Active Duty, Reserve, Guard, Civil Service, contractors, and volunteers in the Military Health System. CCQAS tracks trends in medical malpractice claims in an effort to improve health care quality, ensure legal due process for clinicians undergoing adverse actions, and assist the Medical Treatment Facilities in meeting Joint Commission on Accreditation of Healthcare Organization´s accreditation standards. ***FY 2013 Accomplishments:*** No funding programmed. ***FY 2014 Plans:*** No funding programmed. ***FY 2015 Plans:*** No funding programmed.			
Accomplishments/Planned Programs Subtotals	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 480Z / *Centralized Credentials and Quality Assurance System (CCQAS) (Tri-Service)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013HP / *Information Technology Development*	Project (Number/Name) 481A / *Theather Enterprise Wide Logistics System (TEWLS) Tri-Service)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
481A: *Theather Enterprise Wide Logistics System (TEWLS) Tri-Service)*	5.127	-	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Theater Enterprise-Wide Logistics System (TEWLS) supports critical medical logistics warfighter requirements in a net-centric environment. It ties the national, regional, and deployed units into a single business environment. It creates the necessary links for planners, commercial partners, and AMEDD logisticians to accomplish essential care in the theater through a single customer facing portal. It removes disparate data and replaces it with a single instance of actionable data. TEWLS supports today´s modern, non-contiguous battlefield at the regional, COCOM, and Service levels by leveraging emerging Medical Materiel Executive Agency and Theater Lead Agent infrastructure concepts to manage the entire medical supply chain from the industrial base to the end user.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Theather Enterprise Wide Logistics System (TEWLS) Tri-Service)	-	-	-
Description: Theater Enterprise-Wide Logistics System (TEWLS) supports critical medical logistics warfighter requirements in a net-centric environment. It ties the national, regional, and deployed units into a single business environment. It creates the necessary links for planners, commercial partners, and AMEDD logisticians to accomplish essential care in the theater through a single customer facing portal. It removes disparate data and replaces it with a single instance of actionable data. TEWLS supports today´s modern, non-contiguous battlefield at the regional, COCOM, and Service levels by leveraging emerging Medical Materiel Executive Agency and Theater Lead Agent infrastructure concepts to manage the entire medical supply chain from the industrial base to the end user. ***FY 2013 Accomplishments:*** No funding programmed. ***FY 2014 Plans:*** No funding programmed. ***FY 2015 Plans:*** No funding programmed.			
Accomplishments/Planned Programs Subtotals	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013HP / *Information Technology Development*	**Project (Number/Name)** 481A / *Theather Enterprise Wide Logistics System (TEWLS) Tri-Service)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program											Date: March 2014	
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0605023HP *I Integrated Electronic Health Record (iEHR)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	-	19.912	68.267	-	68.267	34.560	8.125	-	-	Continuing	Continuing
444A: *Integrated Electronic Health Record Inc 1/ Defense Medical Information Exchange (DMIX)*	0.000	-	12.634	45.915	-	45.915	26.864	0.433	-	-	Continuing	Continuing
449A: *Virtual Lifetime Electronic Record (VLER) HEALTH*	0.000	-	2.558	22.352	-	22.352	7.696	7.692	-	-	Continuing	Continuing
483A: *Information Technology Development - DoD Healthcare Management System Modernization (DHMSM)*	-	-	4.720	-	-	-	-	-	-	-	Continuing	Continuing
MDAP/MAIS Code: **Other MDAP/MAIS Code(s):** 465												

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

In March 2008, the MHS embarked upon Electronic Health Record (EHR) modernization planning, establishing the initial Electronic Health Records Way Ahead (EHRWA).

In March 2011, the Program was expanded to include the Department of Veterans Affairs (VA) in a joint initiative to implement a new, integrated electronic health record for both Departments, called the Integrated Electronic Health Record (iEHR) program.

Secretary Hagel's Memorandum titled "Integrated Electronic Health Records," dated May 2013, provided additional direction to the program:
• DoD shall continue near-term coordinated efforts with VA to develop data federation, presentation, and interoperability. This near-term goal shall be pursued as a first priority separately from the longer-term goal of health record information technology (IT) modernization.
• DoD shall pursue a full and open competition for a core set of capabilities for EHR modernization.

To fulfill Secretary Hagel's directive, parallel programs have been defined, splitting the original iEHR program into two distinct areas. In the Under Secretary of Defense for Acquisition, Technology and Logistics (USD (AT&L)) Acquisition Decision Memorandum (ADM), dated June 21, 2013 and an ADM providing direction and guidance for PEO DHMS issued on January 2, 2014, the former joint DoD and Department of Veterans Affairs (VA) Integrated Electronic Health Record (iEHR) program has been restructured to pursue two separate but related healthcare information technology efforts, the DoD Healthcare Management System Modernization (DHMSM) program

and a newly defined iEHR program focused on providing seamless integrated sharing of electronic health data between the DoD and VA (renamed Defense Medical Information Exchange (DMIX)).

iEHR RDT&E is reported under the program element (PE) 0605013 through FY 2013 inclusive, but iEHR, VLER Health and DHMSM will be reported under new program element 0605023 for FY 2014. In FY 2015 and out, PE 0605023 will report only iEHR and VLER Health since DHMSM will have its own PE starting in FY 2015.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	64.100	24.566	-	24.566
Current President's Budget	-	19.912	68.267	-	68.267
Total Adjustments	-	-44.188	43.701	-	43.701
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-43.614			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-0.574			
• Departmental Fiscal Guidance - Total Projects 444A and 449A	-	-	43.701	-	43.701

Change Summary Explanation

FY 2013: No Change.

FY 2014: Realignment from DHP RDT&E, PE 0605013-Information Technology Development (-$64.100 million) to DHP RDT&E, PE 0605023-Integrated Electronic Health Record (iEHR) (+$64.100 million) for Integrated Electronic Health Record (iEHR).

FY 2014: Departmental Fiscal Guidance adjustment (-$43.614 million).

FY 2014: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0605023-Integrated Electronic Health Record (iEHR) (-$0.574 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+$0.574 million).

FY 2015: Departmental Fiscal Guidance Additions to DHP RDT&E, PE 0605023-Integrated Electronic Health Record (iEHR) (+$43.701 million).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605023HP / *Integrated Electronic Health Record (iEHR)*	**Project (Number/Name)** 444A / *Integrated Electronic Health Record Inc 1/ Defense Medical Information Exchange (DMIX)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
444A: *Integrated Electronic Health Record Inc 1/ Defense Medical Information Exchange (DMIX)*	-	-	12.634	45.915	-	45.915	26.864	0.433	-	-	Continuing	Continuing

MDAP/MAIS Code: 465

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Commensurate with the OSD AT&L Acquisition Decision Memoranda (ADM), dated July 21, 2013 and January 2, 2014, the former joint DoD and VA iEHR program has been restructured within the DoD to pursue two separate but related healthcare information technology efforts, the DoD Healthcare Management System Modernization (DHMSM) program and a redefined iEHR program. These programs report through the PEO DoD Healthcare Management Systems (DHMS) to the USD (AT&L).
The redefined iEHR program will be called the Defense Medical Information Exchange (DMIX) and will encompass health data sharing and interoperability across the lifecycle to include data sharing/interoperability with the VA, private healthcare providers and patients. The iEHR Increment 1 initiative will complete delivery of its defined requirements in FY2014 and transition into sustainment beginning in FY2015 under the Defense Health Agency Health Information Technology organization. Due to timelines for budget preparation and submission, a separate initiative could not be generated the funding needed for DMIX in FY2015 is reflected this initiative. A new initiative for the DMIX initiative will be formally established with the FY2016 budget.
The DMIX program will acquire the capabilities necessary to securely and reliably exchange standardized, normalized, and correlated health data with all partners through standard data / information exchange mechanisms. This will allow users in different places and different organizations to access, use, and supplement health data (technical interoperability) that has a shared meaning so users (assisted by computers) are able to make care decisions (Semantic Interoperability – Level 4).
DMIX will consist of Data Federation (DF), Access Management, Service Oriented Architecture / Enterprise Service Bus (SOA/ESB) capabilities, and leverage Identity Management capabilities provided by DMDC. In addition, VLER Health, to include Exchange and Direct, will continue to be part of the DMIX program. Use of the health data may be done via legacy systems, clinical mobile applications and system agnostic viewers such as the Joint Legacy Viewer (JLV).

iEHR RDT&E is reported under the program element 0605013 through FY 2013 inclusive, but will be reported under new program element 0605023 for FY 2014 and out. Plans for out year RDT&E are not finalized at this time.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Integrated Electronic Health Record (iEHR) (Tri-Service)	-	12.634	45.915

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605023HP / *Integrated Electronic Health Record (iEHR)*	**Project (Number/Name)** 444A / *Integrated Electronic Health Record Inc 1/ Defense Medical Information Exchange (DMIX)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015

Description: The Department will benefit from the iEHR Increment 1 user-facing capabilities. Single Sign-On will streamline the login process allowing the user to sign in once and leverage securely stored credentials to automatically access the other available applications. Context Management will automatically present the same patient's data within all applications in use by the practitioner. iEHR Increment 1 will also enhance infrastructure services such as virtualization; establish a Development Test Center/Environment configuration; and provides critical upgrades to the Clinical Data Repository.

The Department will benefit from the work of the newly defined DMIX Program, which will enable interoperability between legacy and new health IT systems, information and people from all critical Defense Health Association (DHA) and VA health data domains. Building from the Data Federation Accelerators, the DMIX will provide secure and reliable exchange of standardized and computable health data with all partners, including other Departments, private sector health care providers, and health information exchange organizations. DMIX will enable the decommissioning of legacy VA-DoD

FY 2013 Accomplishments:
No funding programmed in this program element.

FY 2014 Plans:
iEHR Increment 1 Milestone B baseline requirements to include the Essential Business Functions (EBF) of Context Management, a Single Sign-On capability, and Application Virtualization Hosting Environment (AVHE) to support roaming capability in one location will be completed by May 2014.
A limited fielding decision will be conducted by May 2014 based on the completion of the Increment 1 Milestone B EBFs. An operational assessment, under the cognizance of DOT&E, will be conducted in support of a planned Full Deployment Decision prior to end of the Fiscal Year. Following successful operational assessment, iEHR Increment 1 will transition to DHA for operations and sustainment.

DMIX will complete the 2014 NDAA requirements for health care data to be computable in real time and comply with existing national data standards. In addition, we will provide infrastructure improvements to enhance reliability, scalability, and efficiency of the capability that leverages the MED-COI, which segregates the capability off of the NIPRNet and leverages enterprise patient identity management service.

Deliver DMIX Health Data Interoperability and Exchange Roadmap and acquisition strategy.

FY 2015 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605023HP / *Integrated Electronic Health Record (iEHR)*	**Project (Number/Name)** 444A / *Integrated Electronic Health Record Inc 1/ Defense Medical Information Exchange (DMIX)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
DMIX will sustain existing health data domains, and continue to monitor updated data standards for implementation. Also as national standards evolve for additional data domains, update health data domains to ensure data exchange is standards based. • Meet additional requirements as described in 2014 NDAA to provide, where practical, a modern, open-architecture framework that uses computable data mapped to national standards. • Initiate decommissioning of legacy health data sharing mechanisms in FY2015 by ensuring Health Data Interoperability and exchange capability will support the identified requirements. Start to enhance the Health Data Interoperability and Exchange capability with additional requirements to support the identified decommissioned legacy health data sharing mechanisms.			
Accomplishments/Planned Programs Subtotals	-	12.634	45.915

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, PE 0807784HP: *Information Technology Development* -	-	60.395	30.366	-	30.366	-	-	-	-	Continuing	Continuing
• BA-3, 0807784HP: *Replacement/Modernization*	-	-	8.243	-	8.243	6.860	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

iEHR/DMIX is a collaborative effort between the DoD and VA to share Health Care Resources to improve access to, and quality and cost effectiveness of, health care as mandated by law. This investment is deeply embedded in the MHS Enterprise Roadmap as both Departments have need for modernization/ replacement of existing legacy systems. This investment will use a combination of an open architecture approach, and the purchase (in some instances) of GOTS and COTS products.

E. Performance Metrics

Program cost, schedule and performance are measured periodically using a systematic approach as required for Major Automated Information Systems (MAIS) per DoD Directives and Instructions.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605023HP / *Integrated Electronic Health Record (iEHR)*	Project (Number/Name) 449A / *Virtual Lifetime Electronic Record (VLER) HEALTH*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
449A: *Virtual Lifetime Electronic Record (VLER) HEALTH*	-	-	2.558	22.352	-	22.352	7.696	7.692	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The primary goal of the VLER Health initiative is to enable the secure sharing of health information (i.e., demographic and clinical data) between DoD and external Federal and private sector partners which meets Meaningful Use (MU) requirements to improve healthcare quality, safety, and efficiency. By electronically sharing health information using national standards, that information can support tracking key clinical conditions, communicating that information to better coordinate care, and engaging patients in their own care. The VLER Health initiative provides clinicians with the most up-to-date information, potentially reducing redundant diagnostic tests, medical errors, paperwork and handling, and overall healthcare costs. These benefits, in turn, align with the MHS quadruple aim by ensuring that the military force is medically ready to deploy; the military beneficiary population remains healthy through focused prevention; patient care is convenient, equitable, safe, and of the highest quality; and the total cost of healthcare is reduced through the reduction of waste and focus on quality

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Virtual Lifetime Electronic Record (VLER) HEALTH	-	2.558	22.352
Description: Pursue the primary goal of the VLER Health initiative is to enable the secure sharing of health information (i.e., demographic and clinical data) between DoD and external Federal and private sector partners which meets Meaningful Use (MU) requirements to improve healthcare quality, safety, and efficiency.			
FY 2013 Accomplishments: No funding programmed in this program element.			
FY 2014 Plans: • Re-validate current functional requirements baseline including the capabilities that support VLER Exchange and VLER Direct. • Implement new functionality that fulfills MU Stage 2 requirements and is approved by appropriate DoD governance boards. • Start to roll out the next release of VLER Exchange functionality across enhanced Multi-Service Markets (eMSMs). • Finalize and obtain approval of the Opt-in/Opt-out policy for non-active duty medical beneficiaries. • Improve identity management (i.e., match rates) through collaborative efforts with HealtheWay and Defense Manpower Data System (DMDC) and by integrating with DMDC's Patient Discovery Web Service (PDWS), a technical solution that offers new matching criteria and additional methods for identifying and matching patients. • Modify the VLER 2.1.0.0 solution to render a Consolidated Clinical Document Architecture (C-CDA) that will enable MHS health care providers to receive the C-CDA data set from private sector providers.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605023HP / *Integrated Electronic Health Record (iEHR)*	**Project (Number/Name)** 449A / *Virtual Lifetime Electronic Record (VLER) HEALTH*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
• Modify the VLER 2.1.0.0.solution to comply with Health Insurance Portability and Accountability Act regulations and provide the ability for MHS providers to view health data coded with ICD-10 codes. Encourage vendor and external partner adoption of one common structured data standard as well as standardized style sheets and specifications through participation on HealtheWay's standards workgroups. • Implement technical enhancements that improve the system performance, meet eHealth Exchange's technical specifications, and adhere to DoD security and privacy requirements. • Exchange information with additional external partners who become a part of the eHealth Exchange. ***FY 2015 Plans:*** • Implement a solution, including development of a full operating capability data set, to transfer data using the eHealth Exchange to the Social Security Administration for the purpose of disability claim adjudication for Wounded Warriors, other Service members and other beneficiaries. • Continue to roll out the VLER Exchange functionality to implement the second phase of the enhanced Multi-Service Markets (eMSMs) and to other markets as eHealth Exchange partners servicing MHS market areas are on-boarded to the eHealth Exchange. • Continue efforts to improve identity management (i.e., match rates) through collaborative efforts with HealtheWay and Defense Manpower Data • Evaluate new standards for implementation, such as Meaningful Use Stage 3, to remain compliant with standards promulgated by the Department of Health and Human Services Office of the National Coordinator for Health Information Technology. • Evaluate and implement the MHS Functional Advisory Committee FAC)-approved functional requirements delivered in the spring of 2014.			
Accomplishments/Planned Programs Subtotals	-	2.558	22.352

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, PE 0807784: *Integrated Electronic Health Record (iEHR)*	-	3.900	6.299	-	6.299	9.112	9.950	-	-	Continuing	Continuing
• BA-3, PE 0807784: *Replacement/ Modernization, Integrated Electronic Health Record*	-	-	0.938	-	0.938	0.996	0.980	-	-	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605023HP / *Integrated Electronic Health Record (iEHR)*	**Project (Number/Name)** 449A / *Virtual Lifetime Electronic Record (VLER) HEALTH*

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

Each program establishes performance measurements which are usually included in the MHS IT Annual Performance Plan. Program cost, schedule and performance are measured periodically using a systematic approach.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605023HP / *Integrated Electronic Health Record (iEHR)*	Project (Number/Name) 483A / *Information Technology Development - DoD Healthcare Management System Modernization (DHMSM)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
483A: *Information Technology Development - DoD Healthcare Management System Modernization (DHMSM)*	-	-	4.720	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

DHMSM will acquire and support deployment, implementation, and sustainment of an electronic health record (EHR) system that replaces the DoD legacy Military Health System (MHS) inpatient and outpatient EHR systems. Overarching goal of the program is to enable healthcare teams to deliver high-quality, safe care and preventive services to patients through the use of easily accessible standards-based computerized patient records resulting in: improved accuracy of diagnoses and impact on health outcomes; increased patient participation in the healthcare process; improved patient-centered care coordination; and increased practice efficiencies in all settings, including operational environments.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: DoD Healthcare Management System Modernization (DHMSM)	-	4.720	-

Description: DHMSM will be executed in two planning Segments. DHMSM Segment 1 will focus on replacement of inpatient and outpatient systems, and will encompass deployment of the enterprise EHR to fixed facilities (garrison and non-garrison), as well as Military Treatment Facilities (MTFs) and clinics. DHMSM Segment 2 will focus on replacement of the in-theater EHR, and will encompass deployment of the enterprise EHR to en route, ship-board, and expeditionary components.

FY 2013 Accomplishments:
Funding not programmed.

FY 2014 Plans:
- Program Planning Activities including
- Finalize requirements
- Develop Request for Proposal (RFP) Package
- Prepare supporting Acquisition Documentation to include Acquisition Strategy, Business Case, Engineering Master Plan, Cost Benefit Analysis, Test Strategy, and Deployment and Supportability Plan.
- Release Draft RFP. Obtain Authority to Proceed (RFP Release). Release Final RFP. Conduct Source Selection Process

FY 2015 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605023HP / *Integrated Electronic Health Record (iEHR)*	**Project (Number/Name)** 483A / *Information Technology Development - DoD Healthcare Management System Modernization (DHMSM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Funding not programmed in this program element.			
Accomplishments/Planned Programs Subtotals	-	4.720	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, PE 0807784HP: *Information Technology Development - Integrated Electronic Health Record*	-	24.883	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

Program cost, schedule and performance are measured periodically using a systematic approach per DoD directives and instructions.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program											Date: March 2014	
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0605025HP / *Theater Medical Information Program - Joint (TMIP-J)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	-	34.470	22.042	-	22.042	22.100	22.140	22.180	22.619	Continuing	Continuing
445A: *Theater Medical Information Program - Joint (TMIP-J) (Tri-Service)*	0.000	-	34.470	22.042	-	22.042	22.100	22.140	22.180	22.619	Continuing	Continuing

MDAP/MAIS Code:
Other MDAP/MAIS Code(s): M07

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Theater Medical Information Program - Joint (TMIP-J) integrates components of the Military Health System sustaining base systems and the Services medical information systems to ensure timely interoperable medical support for mobilization, deployment and sustainment of all Theater and deployed forces in support of any mission. TMIP-J enhances the clinical care and information capture at all levels of care in Theater, transmits critical information to the Theater Commander, the evacuation chain for combat and non-combat casualties, and forges the theater links of the longitudinal health record to the sustaining base and the Department of Veterans Affairs. TMIP-J is the medical component of the Global Combat Support System. TMIP-J provides information at the point of care and to the Theater tactical and strategic decision makers through efficient, reliable data capture, and data transmission to a centralized Theater database. This delivers TMIP-J´s four pillars of information support through the electronic health record, integrated medical logistics, patient movement and tracking, and medical command and control through data aggregation, reporting and analysis tools for trend analysis and situational awareness. TMIP-J fulfills the premise of "Train as you fight" through the integration of components which are identical or analogous to systems from the sustaining base. TMIP-J adapts and integrates these systems to specific Theater requirements and assures their availability in the no- and low- communications settings of the deployed environment through store and forward capture and transmission technology.

TMIP-J RDT&E is reported under the program element 0605013 through FY 2013 inclusive, but will be reported under new program element 0605023 for FY 2014 and out.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program					Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*		R-1 Program Element (Number/Name) PE 0605025HP / *Theater Medical Information Program - Joint (TMIP-J)*			
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	-	35.463	34.105	-	34.105
Current President's Budget	-	34.470	22.042	-	22.042
Total Adjustments	-	-0.993	-12.063	-	-12.063
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-0.993			
• Departmental Fiscal Guidance Adjustment - Project 445A	-	-	-12.063	-	-12.063

Change Summary Explanation

FY 2013: No Change.

FY 2014: Realignment from DHP RDT&E, PE 0605013-Information Technology Development (-$35.463 million) to DHP RDT&E, PE 0605025-Theater Medical Information Program – Joint (TMIP-J) (+$35.463 million) for Theater Medical Information Program – Joint (TMIP-J).

FY 2014: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0605025-Theater Medical Information Program – Joint (TMIP-J) (-$0.993 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+$0.993 million).

FY 2015: Departmental Fiscal Guidance directed reductions to DHP RDT&E, PE 0605025-Theater Medical Information Program – Joint (TMIP-J) (-$12.063 million).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605025HP / *Theater Medical Information Program - Joint (TMIP-J)*	Project (Number/Name) 445A / *Theater Medical Information Program - Joint (TMIP-J) (Tri-Service)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
445A: *Theater Medical Information Program - Joint (TMIP-J) (Tri-Service)*	-	-	34.470	22.042	-	22.042	22.100	22.140	22.180	22.619	Continuing	Continuing

MDAP/MAIS Code: M07

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Theater Medical Information Program - Joint (TMIP-J) integrates components of the Military Health System sustaining base systems and the Services´ medical information systems to ensure timely interoperable medical support for mobilization, deployment and sustainment of all Theater and deployed forces in support of any mission. TMIP-J enhances the clinical care and information capture at all levels of care in Theater, transmits critical information to the Theater Commander, the evacuation chain for combat and non-combat casualties, and forges the theater links of the longitudinal health record to the sustaining base and the Department of Veterans Affairs. TMIP-J is the medical component of the Global Combat Support System. TMIP-J provides information at the point of care and to the Theater tactical and strategic decision makers through efficient, reliable data capture, and data transmission to a centralized Theater database. This delivers TMIP-J´s four pillars of information support through the electronic health record, integrated medical logistics, patient movement and tracking, and medical command and control through data aggregation, reporting and analysis tools for trend analysis and situational awareness. TMIP-J fulfills the premise of "Train as you fight" through the integration of components which are identical or analogous to systems from the sustaining base. TMIP-J adapts and integrates these systems to specific Theater requirements and assures their availability in the no- and low- communications settings of the deployed environment through store and forward capture and transmission technology.

TMIP-J RDT&E is reported under the program element 0605013 through FY 2013 inclusive, but will be reported under new program element 0605023 for FY 2014 and out.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Theater Medical Information Program - Joint (TMIP-J) (Tri-Service)	-	34.470	22.042
Description: Complete Increment 2 Release 2 and Increment 2 Release 3 (I2R3) development/integration and conduct operational testing/operational assessment.			
FY 2013 Accomplishments: No funding programmed in this program element.			
FY 2014 Plans: Complete testing and release to the Service Infrastructure Program Offices I2 R2 Service Packs that will include AHLTA-Theater first release of the Aeromedical Evacuation capability, TMIP Composite Health Care System Cache (TC2) updates			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605025HP / *Theater Medical Information Program - Joint (TMIP-J)*	**Project (Number/Name)** 445A / *Theater Medical Information Program - Joint (TMIP-J) (Tri-Service)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Complete development and integration of I2 R3 that will include International Classification of Diseases (ICD-10) for TMIP-J, a modernization of the TMIP Framework, Mobile Computing Capability (MCC) and enhancements to the TC2 graphical user interface released in I2 R2 ***FY 2015 Plans:*** - Complete development, integration and testing of I2 R3 for fielding decision in 1QFY16.			
Accomplishments/Planned Programs Subtotals	-	34.470	22.042

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, 0807793HP: *MHS Tri-Service Information*	-	55.407	61.612	-	61.612	65.309	67.142	69.056	-	Continuing	Continuing
• BA-3, 0807721HP: *Replacement/Modernization*	-	2.425	2.550	-	2.550	2.593	2.637	2.682	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

Each program establishes performance measurements which are usually included in the MHS IT Annual Performance Plan. Program cost, schedule and performance are measured periodically using a systematic approach. The results of these measurements are presented to management on a regular basis in various as part of the Integrated Product and Process Development (IPPD) process, In Process Reviews (IPRs), or other reviews to determine program effectiveness and provide new direction as needed to ensure the efficient use of resources. Performance metrics for specific projects may be viewed at the OMB Federal IT Dashboard website.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0605026HP *I Information Technology Development - DoD Healthcare Management System Modernization (DHMSM)*

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	0.000	-	-	91.394	-	91.394	499.209	373.397	-	-	Continuing	Continuing
483A: *Information Technology Development - DoD Healthcare Management System Modernization (DHMSM) at DHA*	0.000	-	-	91.394	-	91.394	499.209	373.397	-	-	Continuing	Continuing

MDAP/MAIS Code:
Other MDAP/MAIS Code(s): 465

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Commensurate with the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics (OUSD(AT&L)) Acquisition Decision Memoranda (ADM), dated July 21, 2013 and January 2, 2014, the former joint DoD and Department of Veterans Affairs (VA) Integrated Electronic Health Record (iEHR) program has been restructured to pursue two separate but related healthcare information technology efforts, the DoD Healthcare Management System Modernization (DHMSM) program and a newly defined iEHR program focused on providing seamless integrated sharing of electronic health data between the DoD and VA (renamed Defense Medical Information Exchange (DMIX)).

DHMSM will acquire and support deployment, implementation, and sustainment of an electronic health record (EHR) system that replaces the DoD legacy Military Health System (MHS) inpatient and outpatient EHR systems. Overarching goal of the program is to enable healthcare teams to deliver high-quality, safe care and preventive services to patients through the use of easily accessible standards-based computerized patient records resulting in: improved accuracy of diagnoses and impact on health outcomes; increased patient participation in the healthcare process; improved patient-centered care coordination; and increased practice efficiencies in all settings, including operational environments.

DHMSM will be executed in two planning Segments. DHMSM Segment 1 will focus on replacement of inpatient and outpatient systems, and will encompass deployment of the enterprise EHR to fixed facilities (garrison and non-garrison), as well as Military Treatment Facilities (MTFs) and clinics. DHMSM Segment 2 will focus on replacement of the in-theater EHR, and will encompass deployment of the enterprise EHR to en route, ship-board, and expeditionary components.

The DHMSM program receives oversight and direction from Program Executive Office (PEO) Defense Healthcare Management System (DHMS) and reports to USD (AT&L). Stakeholders include the Assistant Secretary of Defense (Health Affairs), Defense Health Agency (DHA), USD (AT&L), and PEO DHMS. The customers for this project include the beneficiaries, health care providers, and managers of the Army, Navy and Air Force MTFs and clinics.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0605026HP / *Information Technology Development - DoD Healthcare Management System Modernization (DHMSM)*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	91.394	-	91.394
Total Adjustments	-	-	91.394	-	91.394
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Departmental Fiscal Guidance - Project 483A	-	-	91.394	-	91.394

Change Summary Explanation

FY 2013: N/A

FY 2014: N/A

FY 2015: Departmental Fiscal Guidance Additions to DHP RDT&E, PE 0605026-Information Technology Development - DoD Healthcare Management System Modernization DHMSM) (+$91.394 million).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605026HP / *Information Technology Development - DoD Healthcare Management System Modernization (DHMSM)*	**Project (Number/Name)** 483A / *Information Technology Development - DoD Healthcare Management System Modernization (DHMSM) at DHA*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
483A: *Information Technology Development - DoD Healthcare Management System Modernization (DHMSM) at DHA*	-	-	-	91.394	-	91.394	499.209	373.397	-	-	Continuing	Continuing

MDAP/MAIS Code: 465

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

DHMSM will acquire and support deployment, implementation, and sustainment of an electronic health record (EHR) system that replaces the DoD legacy Military Health System (MHS) inpatient and outpatient EHR systems. Overarching goal of the program is to enable healthcare teams to deliver high-quality, safe care and preventive services to patients through the use of easily accessible standards-based computerized patient records resulting in: improved accuracy of diagnoses and impact on health outcomes; increased patient participation in the healthcare process; improved patient-centered care coordination; and increased practice efficiencies in all settings, including operational environments.

DHMSM will be executed out of Program Element 0605023 in FY 2014 only.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: DoD Healthcare Mgmt System Modernization (DHMSM) Program	-	-	91.394
Description: DHMSM will be executed in two planning Segments. DHMSM Segment 1 will focus on replacement of inpatient and outpatient systems, and will encompass deployment of the enterprise EHR to fixed facilities (garrison and non-garrison), as well as Military Treatment Facilities (MTFs) and clinics. DHMSM Segment 2 will focus on replacement of the in-theater EHR, and will encompass deployment of the enterprise EHR to en route, ship-board, and expeditionary components.			
FY 2013 Accomplishments: No funding programmed.			
FY 2014 Plans: No funding programmed in this program element in this fiscal year.			
FY 2015 Plans: • Finalize Acquisition Documentation (Acquisition Strategy, Business Case, Engineering Master Plan, Cost and Benefit Analysis, Test Strategy, and Deployment and Supportability Plan)			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605026HP / *Information Technology Development - DoD Healthcare Management System Modernization (DHMSM)*	**Project (Number/Name)** 483A / *Information Technology Development - DoD Healthcare Management System Modernization (DHMSM) at DHA*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
• Obtain Authority to Proceed (Contract Award) • Award Contract activities. • Configuration and Integration of solution in test environment • Conduct Independent Verification and Validation (IV&V) This section will be revised in subsequent budget submissions as the initiative matures.			
Accomplishments/Planned Programs Subtotals	-	-	91.394

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• BA-1, PE 0807787: *DoD Healthcare Management Systems*	-	-	57.566	-	57.566	75.777	93.516	-	-	Continuing	Continuing
• BA-3, PE 0807787: *Information Technology Development and Sustainment - DoD Healthcare Management System Modernization*	-	-	-	-	-	-	302.802	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

Each program establishes performance measurements which are usually included in the MHS IT Annual Performance Plan. Program cost, schedule and performance are measured periodically using a systematic approach. The results of these measurements are presented to management on a regular basis in various as part of the Integrated Product and Process Development (IPPD) process, In Process Reviews (IPRs), or other reviews to determine program effectiveness and provide new direction as needed to ensure the efficient use of resources are also used.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program											Date: March 2014	
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0605145HP *I Medical Products and Support Systems Development*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	33.073	9.240	18.445	14.499	-	14.499	19.534	24.729	26.841	31.430	Continuing	Continuing
375A: *GDF-Medical Products and Support System Development*	18.062	5.718	13.099	12.694	-	12.694	18.679	23.874	25.941	30.605	Continuing	Continuing
399A: *Hyperbaric Oxygen Therapy Clinical Trial (Army)*	15.011	3.522	5.346	1.805	-	1.805	0.855	0.855	0.900	0.825	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

This Program Element (PE) funds system development and demonstration of medical commodities delivered from the various medical advanced development and prototyping DoD Components that are directed at meeting validated requirements prior to full-rate initial production and fielding, including initial operational test and evaluation and clinical trials. These clinical trials are conducted to obtain US Food and Drug Administration (FDA) approval, a requirement for use of all medical products. 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, and the strategy and initiatives described in the Quadrennial Defense Review. 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 Department of Homeland Security. This coordination occurs through the planning and execution activities of the Joint Program Committees, established for the Defense Health Program Research, Development, Test and Evaluation funding. The work includes development and demonstration of medical modeling and simulation systems for training/education/treatment, and medical system development and demonstration. The funding also supports the clinical evaluation of hyperbaric oxygenation for post-concussion syndrome (PCS). The effort encompasses development, initiation, operation, analysis, and subsequent publication of clinical trials to compare and assess the long-term benefit of hyperbaric oxygen (HBO2) therapy on service members with (PCS). As the research efforts mature, the most promising will transition to production and deployment or to industry.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program					Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*			R-1 Program Element (Number/Name) PE 0605145HP / *Medical Products and Support Systems Development*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	17.116	18.976	25.855	-	25.855
Current President's Budget	9.240	18.445	14.499	-	14.499
Total Adjustments	-7.876	-0.531	-11.356	-	-11.356
• Congressional General Reductions	-0.023	-			
• Congressional Directed Reductions	-4.964	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.889	-0.531			
• Reductions related to Departmental Efficiencies - Project 375A	-	-	-11.261	-	-11.261
• Reductions related to Departmental Efficiencies - Project 399A	-	-	-0.095	-	-0.095

Change Summary Explanation

FY 2013: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0605145-Medical Products and Support Systems Development (-$2.889 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+$2.889 million).

FY 2013: General Congressional Reductions to DHP RDT&E, PE 0605145-Medical Products and Support Systems Development (-$0.023 million).

FY 2013: Congressional Directed Reductions (Sequestration) to DHP RDT&E, PE 0605145-Medical Products and Support Systems Development (-$4.964 million).

FY 2014: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0605145-Medical Products and Support Systems Development (-$0.531 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+$0.531 million).

FY 2015: Reduces non-combat injury research funding in order to focus and continue the pace of progress in critical and high priority research areas for DHP RDT&E, PE 0605145-Medical Products and Support Systems Development (-$11.356 million).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605145HP / *Medical Products and Support Systems Development*	Project (Number/Name) 375A / *GDF-Medical Products and Support System Development*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
375A: *GDF-Medical Products and Support System Development*	18.062	5.718	13.099	12.694	-	12.694	18.679	23.874	25.941	30.605	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Activities conducted are intended to support system development and demonstration prior to initial full rate production and fielding of commodities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: GDF - Medical Products and Support Systems Development (GDF-MPSSD)	5.718	13.099	12.694

Description: GDF-Medical Products and Support Systems Development (GDF-MPSSD): Activities conducted are intended to support system development and demonstration prior to initial full rate production and fielding of medical commodities delivered from 0604110HP (Medical Products Support and Advanced Concept Development). Development and demonstration activities will be conducted in the following areas: medical modeling and simulation systems for training/education/treatment, rapid screening for fresh whole blood, and dried plasma and TBI biomarker point of care devices.

FY 2013 Accomplishments:

Medical Training and Health Information Sciences focused on researching the advanced development and validation of technologies and products to improve military relevant training with a focus on combat trauma training.

The Combat Casualty Care research area supported development of a TBI biomarker reference device and clinical development of a TBI biomarker diagnostic assay system.

FY 2014 Plans:

Medical Training and Health Information Sciences is focusing on the advanced development and validation of technologies and products that improve military medicine through healthcare provider training for continuously high state of readiness, technologies to reduce dependency of use of live tissue for training, and facilitate home based training. Continual efforts towards evaluating and validating the effectiveness of currently commercialized or advanced prototype simulation systems for military use are underway.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605145HP / *Medical Products and Support Systems Development*	**Project (Number/Name)** 375A / *GDF-Medical Products and Support System Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Combat casualty care research is continuing the advanced development effort of dried plasma and TBI biomarker point of care devices. Clinical trials are underway to evaluate two alternate point-of-care devices in conjunction with the biomarker-specific diagnostic assay system. These clinical trials provide data to support licensure by the Food and Drug Administration (FDA). ***FY 2015 Plans:*** Medical Training and Health Information Sciences will focus on testing and evaluating commercially available, off-the-shelf technologies and advanced prototype products. These efforts will improve military medicine through medical provider training to sustain a continuously high state of readiness and the advanced development of technologies to reduce and refine the use of live tissue for training. Solicitations will be released seeking comparison between current commercialized (or soon-to-be commercialized) Virtual Standardized Patients (Avatars) vs. Standardized Patients (Actors) to better understand strengths and weaknesses of both models. Military infectious disease research will continue, from PE 0604110, to support development of the Nucleic Acid Testing platform for screening whole blood collections in a deployed environment under the rapid screening for fresh whole blood task. FDA mandated phase 2 clinical studies will be initiated during this period. Combat casualty care research will continue clinical development of TBI biomarkers and other indicators of traumatic brain injury in patients with concussive injuries as required by the FDA. Will also continue clinical evaluation of a TBI biomarker point of care device, which uses a novel optical technology. Clinical trials will evaluate two alternate point-of-care devices in conjunction with the biomarker-specific diagnostic assay system. These clinical trials, once completed, will provide conclusive evidence to support effectiveness and accuracy necessary for licensure by the FDA.			
Accomplishments/Planned Programs Subtotals	5.718	13.099	12.694

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Test and evaluate medical procedures and prototype devices in government-managed Phase 2 effectiveness clinical trials to gather data required for military and regulatory requirements prior to production and fielding, to include FDA approval and Environmental Protection Agency registration.

E. Performance Metrics

[JPC 1,2,6,PART] Principal investigators will participate in In-Progress Reviews, high-level DHP-sponsored review and analysis meetings, submit quarterly and annual status reports, and are subjected to Program Office or Program Sponsor Representative progress reviews to ensure that milestones are being met and deliverables will

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605145HP / *Medical Products and Support Systems Development*	**Project (Number/Name)** 375A / *GDF-Medical Products and Support System Development*

be transitioned on schedule. Integrated Product Teams, if established for a therapy or device, will monitor progress in accordance with DoD Regulation 5000 series. The benchmark performance metric for transition of research supported in this PE will be the attainment of a maturity level that is typical of TRL 8.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605145HP / *Medical Products and Support Systems Development*	Project (Number/Name) 399A / *Hyperbaric Oxygen Therapy Clinical Trial (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
399A: *Hyperbaric Oxygen Therapy Clinical Trial (Army)*	15.011	3.522	5.346	1.805	-	1.805	0.855	0.855	0.900	0.825	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

For the Army, the Hyperbaric Oxygen Therapy (HBO2) clinical trials will focus on research for development of treatment modalities using HBO2 for chronic post-concussion syndrome (PCS) after mild TBI. Four HBO2 study sites were established within the Military Health System and are fully functional. The research sites consist of a hyperbaric oxygen chamber enclosed in a mobile trailer, another mobile trailer for testing and evaluation of the subjects, and a third subject changing trailer. Human clinical trials will be designed to evaluate and use HBO2 treatments for Service members who are symptomatic at or after the time of post-deployment health reassessments from one or more concussions.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Hyperbaric Oxygen Therapy Clinical Trial (Army)	3.522	5.346	1.805
Description: HBO2 clinical trials are designed to test in humans the use of hyperbaric oxygen treatments for Service members who are symptomatic from one or more concussions at the time of post-deployment health reassessments.			
FY 2013 Accomplishments: The pilot study of low dose HBO2 was completed and analyzed, and results were released to the FDA in the 3rd quarter. The team worked with Navy and Veteran's Affairs (VA) researchers to analyze the results of the complementary dose ranging study, which were also released to the FDA in the 3rd quarter. The team completed a summary of these three studies for review by the national hyperbaric medical professional association, TRICARE, the VA, and Department of Defense policymakers. A study confirming initial findings and evaluating cutting-edge radiologic (X-rays, CAT scans, MRIs) and physiologic biomarker (biological indicators) technology is ongoing until FY2015. The VA continued validation of the Neurobehavioral Symptom Inventory questionnaire per FDA guidelines. A decision is being made to proceed to a FDA-regulated, phase III pivotal trial.			
FY 2014 Plans: HBO2 therapy treatment guidelines will be updated along with education of the end-users, as the results of completed studies warrant (1QFY14). The study confirming initial findings and evaluating cutting-edge radiologic and physiologic biomarker technology will complete enrollment, and volunteers will be followed for one year to assess durability of the responses. Long-term follow-up of study volunteers to evaluate durability of the improvement is planned for five years.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605145HP / *Medical Products and Support Systems Development*	**Project (Number/Name)** 399A / *Hyperbaric Oxygen Therapy Clinical Trial (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Will complete the study to confirm initial findings and evaluate cutting-edge radiologic and physiological biomarker technology with 6 month and 12 month subject follow-ups. Will complete FDA data analysis and reporting. The long-term follow-up study (one year or more following last chamber session) of volunteers who have participated in three previous studies evaluating durability of the improvement will complete data collection and progress to the analysis and dissemination phases.			
Accomplishments/Planned Programs Subtotals	3.522	5.346	1.805

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Off-label use of an existing technology. Knowledge product, with initial results to affect TBI treatment policy and procedure reimbursement policy. Decision to pursue FDA registration will be made as part of a formal acquisition decision after the initial results are reviewed.

E. Performance Metrics

The HBO2 Program Management Office Integrated Product Team monitors performance of contracts through review of monthly, yearly and final progress reports to ensure that milestones are being met; deliverables will be transitioned on schedule and within budget and in accordance with DOD regulation 5000.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0605502HP / *Small Business Innovation Research (SBIR) Program*

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	36.040	27.307	19.205	-	-	-	-	-	-	-	Continuing	Continuing
470A: *Small Business Innovation Research (SBIR) (Army)*	36.040	27.307	19.205	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (SBIR) program was established in the Defense Health Program (DHP), Research, Development, Test and Evaluation (RDT&E) appropriation during FY 2001, and is funded in the year of execution. The objective of the DHP SBIR Program includes stimulating technological innovation, strengthening the role of small business in meeting DoD research and development needs, fostering and encouraging participation by minority and disadvantaged persons in technological innovation, and increasing the commercial application of DoD-supported research and development results. The program funds small business proposals chosen to enhance military medical research and information technology research.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	27.307	19.205	-	-	-
Total Adjustments	27.307	19.205	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	27.307	19.205			

Change Summary Explanation

FY 2013: Realignment to DHP RDT&E, PE 0605502-Small Business Innovation Research (SBIR) Program (+$27.307 million) from the following DHP PEs:
DHP RDT&E, PE 0601101-In-House Laboratory Independent Research (-$0.025 million);
DHP RDT&E, PE 0601117-Basic Operational Medical Research Sciences (-$0.271 million);
DHP RDT&E, PE 0602115-Applied Biomedical Technology (-$1.622 million);
DHP RDT&E, PE 0602787-Medical Technology (AFRRI) (-$0.032 million);
DHP RDT&E, PE 0603002-Advanced Technology (AFRRI) (-$0.004 million)
DHP RDT&E, PE 0603115-Medical Technology Development (-$8.356 million);
DHP RDT&E, PE 0604110-Medical Products Support and Advanced Concept Development (-$8.378 million);
DHP RDT&E, PE 0605013-Information Technology Development (-$4.605 million);

DHP RDT&E, PE 0605145-Medical Products and Support Systems Development (-$2.889 million);
DHP RDT&E, PE 0606105-Medical Program-Wide Activities (-$0.833 million);
DHP RDT&E, PE 0607100-Medical Products and Capabilities Enhancement Activities (-$0.292 million).

FY 2014: Realignment to DHP RDT&E, PE 0605502-Small Business Innovation Research (SBIR) Program (+$19.205 million) from the following DHP PEs:
DHP RDT&E, PE 0601101-In-House Laboratory Independent Research (-$0.086 million);
DHP RDT&E, PE 0601117-Basic Operational Medical Research Sciences (-$0.170 million);
DHP RDT&E, PE 0602115-Applied Biomedical Technology (-$1.309 million);
DHP RDT&E, PE 0602787-Medical Technology (AFRRI) (-$0.034 million);
DHP RDT&E, PE 0603002-Advanced Technology (AFRRI) (-$0.009 million)
DHP RDT&E, PE 0603115-Medical Technology Development (-$8.144 million);
DHP RDT&E, PE 0604110-Medical Products Support and Advanced Concept Development (-$3.705 million);
DHP RDT&E, PE 0605013-Information Technology Development (-$1.207 million);
DHP RDT&E, PE 0605023-Integrated Electronic Record (iEHR) (-$0.574 million);
DHP RDT&E, PE 0605025-Theater Medical Information Program - Joint (TMIP-J) (-$0.993 million);
DHP RDT&E, PE 0605145-Medical Products and Support Systems Development (-$0.531 million);
DHP RDT&E, PE 0606105-Medical Program-Wide Activities (-$2.033 million);
DHP RDT&E, PE 0607100-Medical Products and Capabilities Enhancement Activities (-$0.410 million).

FY 2015: No Change.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605502HP / *Small Business Innovation Research (SBIR) Program*	Project (Number/Name) 470A / *Small Business Innovation Research (SBIR) (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
470A: *Small Business Innovation Research (SBIR) (Army)*	36.040	27.307	19.205	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Small Business Innovation Research (SBIR): The SBIR program was established in the Defense Health Program (DHP) Research, Development, Test and Evaluation (RDT&E) appropriation during FY 2001, and is funded in the year of execution. The program funds small business proposals chosen to enhance military medical research and information technology research.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Small Business Innovation Research (SBIR) Program	27.307	19.205	-

Description: The program funds small business proposals chosen to enhance military medical research and information technology research. The following reflects the FY12 research area topics sought for proposals.

FY 2013 Accomplishments:

For FY13 (DHP SBIR 13.2), seventeen area topics were developed for solicitation of biomedical technology SBIRs proposals. Funding for each research area topic was based on the merits of responses to solicitations. Topics include development of a simulation-based training system to assist teaching the use of intraosseous (injection directly into bone marrow) devices to administer fluid to patients; long-lasting disposable insecticidal/repellant fabric barrier for personal or area protection against biting arthropods (tick and flea); militarized formulation and Environmental Protection Agency registerable attractive targeted sugar bait for insect vector control; rapid identification of microbial pathogens from food, water and environmental samples; sporozoite (infectious stage of a unicellular organism) vaccine administration method; development of a vector arthropod (tick and flea) pitfall or sticky trap with CO2 attractant; a software tool to assess injury risk and maximum allowable exertions for repetitive forceful one hand and two hand shoulder push/pull motions; a software tool to assess injury risk associated with mechanical exposures from wearing head supported mass; a human body model for computational assessment of blast injury and protection; visual evoked potentials (electrical signals initiated by strobe flash) for TBI diagnosis; immediate application cranioplasty (surgical repair of a defect of a skull) during decompressive craniectomy (removal of part of the skull to allow swelling) for head injuries; a point-of-care device for diagnosis of platelet injury in trauma patients; tailored wound dressing for the treatment of burns; a universal device for performing cricothyrotomies (an incision made through the skin and membrane to establish an airway during life-threatening situations); development of technologies that address the complex architecture of the face during the treatment of severe facial burn injury; and assistive technology sensor platform.

FY 2014 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605502HP / *Small Business Innovation Research (SBIR) Program*	**Project (Number/Name)** 470A / *Small Business Innovation Research (SBIR) (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
DHP SBIR 14.1 Topic Index			
DHP14-001 - Reducing the Burden on Military Tactical Networks by Lowering the Impact of Digital Medical Image Transmissions. OBJECTIVE: Seek methodologies and emerging technologies to reduce the burden on the military's tactical networks derived from the transmission of digital medical imagery.			
DHP14-002 - Computer-Generated, Synthetic Medical Images and Complex Narratives for Use in Healthcare Informatics Research. OBJECTIVE: As a first objective, conduct basic and applied research surrounding new technologies to computer-generate completely synthetic, complex, medical text narratives for subsequent use in clinical informatics research and healthcare information technology feasibility studies. As a second objective, conduct basic and applied research surrounding new technologies to computer-generate completely synthetic medical images for subsequent use in clinical informatics research and healthcare information technology feasibility studies. If the research is successful, computer-generated synthetic medical text and images could then be made available to the government and/or other private researchers through commercial or open source licensing agreements.			
DHP14-003 - Mobile Application for Improved Sleep through Sleep Hygiene Training Feedback. OBJECTIVE: Design, develop and deploy a mobile application which provides sleep hygiene training feedback and cueing to improve sleep quantity and quality.			
DHP14-004 - Rapid Indicator of Potential for Weight Gain/Loss & Trending. OBJECTIVE: Develop a commercial; off the shelf test for daily assessing an individual's biochemical modality for weight loss or gain potential before the weight change is observable (as measured on a scale in pounds).			
DHP14-005 - Development of a Multiplex Bioassay for Early Predictors of Multiple Organ Injury. OBJECTIVE: Define and develop existing, validated, pre-clinical biomarkers of organ-specific injury that correlate with diverse types of injury to include but not limited to systemic toxicity. Define and resolve issues involved with the use of a diverse set of biomarkers with a single multiplexed methodology. Define and resolve issues related to the isolation and use of diverse biological samples to include but not limited to plasma and urine. Develop a prototype multiplex biomarker assay and algorithm specific and sensitive to diverse and common types of organ injury to include but not limited to kidney, liver, heart, and lung.			
DHP14-006 - Application of a Wireless Finger-mounted Ultrasound Transducer and Imaging Platform.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605502HP / *Small Business Innovation Research (SBIR) Program*	**Project (Number/Name)** 470A / *Small Business Innovation Research (SBIR) (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
OBJECTIVE: The objective of this topic is to develop and demonstrate a wearable finger-mounted ultrasound transducer and ultrasound imaging platform that uses wireless connectivity for image display and operator interface functions on common commercially available hand held platforms. Medics in isolated environments are now conducting FAST exams in the field to determine internal injuries before casualties are transported out of the area and current wired handheld ultrasound transducer/ probes are too large and bulky to be used in the combat environment. Medics need a finger-mounted probe to slide under body armor to examine casualties and have the capability to transmit ultrasound images wirelessly from a wearable finger probe to a SMART device which is connected to a secure communication network that can further transmit these images to a Medical Officer in the rear area. This research will incrementally advance the state of the art for point of injury care and on attended casualty evacuation vehicles such that the final demonstration shows proof-of-concept feasibility for medical information exchange and telementoring from any location on the battlefield. DHP14-007 - Non-Invasive, Head-Mounted Measures of Vestibular Function. OBJECTIVE: Develop and test a single head-mounted device capable of measuring vestibular function to include assessment of vestibular-ocular, vestibular-auricular, vestibular-perceptual and vestibular spinal reflexes. DHP14-008 - Mobile Applications/Web-Based Management Solutions for Hearing Injuries. OBJECTIVE: Develop a mobile, web-based application that assists/guides patients with hearing loss and tinnitus through aural rehabilitation therapy (improving signal identification and speech in noise function) and provides tinnitus management. The program will identify best practice applications for servicemen struggling to habituate to the effects of hearing loss and tinnitus. Possible solutions are to incorporate components of cognitive-behavioral therapy (CBT), tinnitus masking (TM), tinnitus retraining therapy (TRT), neuromodulation (NM) along with introducing aural rehabilitation therapy (ART) (J. A. Henry, Schechter, et al., 2006a, 2006b). The tool will identify users with ear-level devices (hearing aids, noise generators, cranial nerve stimulators, and combination instruments) and accommodate and improve effective use of such devices. The tool(s) applications will be compatible with networks and telemedicine data flows within the DOD/VA community to protect information security by preventing the exchange or transmission of personally identifiable information. DHP14-009 - Technologies That Reconstruct or Regenerate Vascular Tissue in the Extremities After Traumatic Injury. OBJECTIVE: This effort is to develop a new innovative technology that may include the use of novel biomaterials, nanotopologies, cellular/tissue-based strategies or biologics, to reconstruct and regenerate vascular tissue in the extremities after traumatic injury. DHP14-010 - Upper Limb Assistive and Rehabilitation Orthotic Device.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605502HP / *Small Business Innovation Research (SBIR) Program*	**Project (Number/Name)** 470A / *Small Business Innovation Research (SBIR) (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
OBJECTIVE: To develop a rehabilitation and assistive technology that enhances and/or returns upper limb motor function losses due to traumatic combat injuries. Develop a portable and easy to use hand worn assistive device that is applicable in daily life and outdoor activities. The device should have biomimetic motion application and structural similarity to biological hand. The device should also be safe to use, relatively light weight, affordable, scalable, and have low power consumption and a wireless capability for data transfer. DHP14-011 - Technologies to Train Myoelectric Prosthesis Users for Optimal Functional Outcomes. OBJECTIVE: The objective of this effort is to develop a new tool or technology that can optimize training outcomes for myoelectric prostheses. ***FY 2015 Plans:*** No funding programmed. The DHP SBIR program is funded in the year of execution.			
Accomplishments/Planned Programs Subtotals	27.307	19.205	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Test and evaluate commercially developed prototypes funded by the SBIR program to ensure military and regulatory requirements are met prior to production and fielding, to include FDA licensure and Environmental Protection Agency registration.

E. Performance Metrics

The number of Phase I awards supporting innovative technology development. The number of Phase II and III awards leading to technology transition.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program											Date: March 2014	
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0606105HP / *Medical Program-Wide Activities*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	46.252	40.835	70.535	38.075	-	38.075	44.043	30.349	32.646	28.238	Continuing	Continuing
305T: *USAMRIID IO&T (Army)*	14.909	14.154	38.916	8.029	-	8.029	17.329	3.011	1.810	-	Continuing	Continuing
368A: *Pacific-Based Joint Information Technology Center - Maui (JITC-Maui) (HIT)*	7.393	3.594	7.882	4.748	-	4.748	5.174	5.427	7.105	8.277	Continuing	Continuing
397T: *USAMRICD IO&T (Army)*	17.154	5.641	8.544	5.003	-	5.003	0.103	-	-	-	Continuing	Continuing
401A: *CONUS Laboratory Support Clinical Infrastructure (Army)*	3.830	8.136	2.916	4.886	-	4.886	4.975	5.064	5.155	4.378	Continuing	Continuing
432A: *OCONUS Laboratory Infrastructure Support (Army)*	2.966	6.332	7.855	11.823	-	11.823	12.487	12.699	13.608	11.787	Continuing	Continuing
433A: *NMRC Biological Defense Research Directorate (BDRD) (Navy)*	0.000	2.978	4.229	3.586	-	3.586	3.975	4.148	4.968	3.796	Continuing	Continuing
442A: *USARIEM Pike's Peak IO&T (Army)*	0.000	-	0.193	-	-	-	-	-	-	-	Continuing	Continuing
115T: *MILCON IO&T*	0.000	-	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Army Medical Command receives funding for research infrastructure management support requirements at select continental United States (CONUS) and outside the continental US (OCONUS) laboratories and clinical trial sites. Research scientists at these laboratories conduct bio-surveillance and early-to-late-stage clinical research of investigational products such as biologics, drugs, and devices to treat/prevent polytrauma (multiple traumatic injuries) and infectious diseases. Research is conducted to obtain US Food and Drug Administration (FDA) approval; a requirement for use of all medical products. The funding provides for the sustainment of significant technical expertise and knowledge independent of the number of assigned projects. This funding also provides for initial outfitting and transition (IO&T) cost requirements for replacement of research, development, test and evaluation (RDT&E) medical laboratories funded under multi-year military construction (MILCON) projects. These IO&T funds are designated as appropriations other than MILCON.

The Office of the Assistant Secretary of Defense for Health Affairs (Force Health Protection & Readiness) receives funds to provide management support for research projects at Pacific Joint Information Technology Center (P-JITC).

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0606105HP / *Medical Program-Wide Activities*

For the Navy Bureau of Medicine and Surgery, this program element includes facility operational funding for the Medical Biological Defense research sub-function of the Naval Medical Research Center (NMRC) Biological Defense Research Directorate (BDRD). The program mission is mandated by the Joint Requirements Office for Chemical, Biological, Radiological, and Nuclear Defense (JRO-CBRND) baseline capabilities assessment of chemical and biological passive defense. The primary function is Research on Countermeasures to Biological Threat Agents; Development of Assays to Detect Biological Threat Agents; Bioforensic Analysis of Biological Threat Agents.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	61.518	72.568	47.570	-	47.570
Current President's Budget	40.835	70.535	38.075	-	38.075
Total Adjustments	-20.683	-2.033	-9.495	-	-9.495
• Congressional General Reductions	-0.080	-			
• Congressional Directed Reductions	-30.647	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	10.877	-			
• SBIR/STTR Transfer	-0.833	-2.033			
• Departmental Fiscal Guidance - Project 368A	-	-	-3.528	-	-3.528
• Departmental Fiscal Guidance - Project 401A	-	-	-3.258	-	-3.258
• Departmental Fiscal Guidance - Project 432A	-	-	-1.313	-	-1.313
• Departmental Fiscal Guidance - Project 433A	-	-	-0.896	-	-0.896
• Departmental Fiscal Guidance - Project 115T	-	-	-0.500	-	-0.500

Change Summary Explanation

FY 2013: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0606105-Medical Program-Wide Activities (-$0.833 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+$0.833 million).

FY2013: General Congressional Reductions to DHP RDT&E, PE 0606105-Medical Program-Wide Activities (-$0.080 million).

FY2013: Congressional Directed Reductions (Sequestration) to DHP RDT&E, PE 0606105-Medical Program-Wide Activities (-$30.647 million).

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0606105HP *I Medical Program-Wide Activities*

FY 2013: Below Threshold Reprogramming (BTR) from DHP RDT&E PE, 0603115-Medical Technology Development (-$8.136 million) to DHP RDT&E PE, 0606105-Medical Program-Wide Activities (+$8.136 million).

FY 2013: Below Threshold Reprogramming (BTR) from DHP RDT&E PE, 0604110-Medical Products Support and Advanced Concept Development (-$2.740 million) to DHP RDT&E PE, 0606105-Medical Program-Wide Activities (+$2.740 million).

FY 2014: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0606105-Medical Program-Wide Activities (-$2.033 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+$2.033 million).

FY 2015: Reduces non-combat injury research funding in order to focus and continue the pace of progress in critical and high priority research areas for DHP RDT&E, PE 0606105-Medical Program-Wide Activities (-$9.495 million).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0606105HP / *Medical Program-Wide Activities*	Project (Number/Name) 305T / *USAMRIID IO&T (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
305T: *USAMRIID IO&T (Army)*	14.909	14.154	38.916	8.029	-	8.029	17.329	3.011	1.810	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Funding supports the initial outfitting and transition (IO&T) costs associated with military construction (MILCON) for the US Army Medical Research Institute of Infectious Diseases (USAMRIID), Fort Detrick, Maryland.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: USAMRIID IO&T (Army)	14.154	38.916	8.029

Description: US Army Medical Research Institute of Infectious Diseases in Fort Detrick, Maryland, initial outfitting and transition (IO&T) costs associated with military construction.

FY 2013 Accomplishments:

The FY13 USAMRIID IO&T program reflects the phased requirements based on construction progress as the building nears completion. Initial Outfitting (IO) equipment purchased for FY13 was from fiscal year equipment listings based on delivery lead time, building placement, installation, and bona-fide need criteria. FY13 transition costs were for the incremental fiscal year requirements for operations that support this multi-year MILCON project. Transition funds provided for personnel, travel, planning and acquisition support, commission and transition support, and decommissioning planning and management for the old site.

FY 2014 Plans:

The FY14 USAMRIID IO&T program reflects the phased requirements based on construction progress as the building nears completion. IO equipment to be purchased for FY14 is from fiscal year equipment listings based on delivery lead time, building placement, installation, and bona-fide need criteria. FY14 transition costs are the incremental fiscal year requirements for operations that support this multi-year MILCON project. Funds provide for personnel, travel, planning and acquisition support, movement support for materiel from the old to new or intermediate facility sites, old site equipment turn-in support, post-move old site cleaning support, phased dual occupancy costs of old and new sites, commissioning and transition support, and decommissioning planning and management support.

FY 2015 Plans:

The FY15 USAMRIID IO&T program reflects the phased requirements based on construction progress as the building nears completion. Remaining IO equipment to be purchased for FY15 is from fiscal year equipment listings based on delivery lead time, building placement, installation, and bona-fide need criteria. FY15 transition costs will be the incremental fiscal year requirements for operations that support this multi-year MILCON project. Funds will be used to provide for personnel, travel, planning and

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0606105HP / *Medical Program-Wide Activities*	**Project (Number/Name)** 305T / *USAMRIID IO&T (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
acquisition support, any remaining movement support for materiel from the old to new or intermediate facility sites, increased phased dual occupancy costs of old and new sites, hazardous material movement, medical cleaning of the old site, Directorate of Information Management phone and communications final connections for the new site, commissioning and transition support, and decommissioning support.			
Accomplishments/Planned Programs Subtotals	14.154	38.916	8.029

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Metric includes completed and documented analysis by the performer reflecting program execution and completion dates based on approved phasing.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0606105HP / *Medical Program-Wide Activities*	**Project (Number/Name)** 368A / *Pacific-Based Joint Information Technology Center - Maui (JITC-Maui) (HIT)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
368A: *Pacific-Based Joint Information Technology Center - Maui (JITC-Maui) (HIT)*	7.393	3.594	7.882	4.748	-	4.748	5.174	5.427	7.105	8.277	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Pacific Joint Information Technology Center (Pacific JITC) (DHA HIT Directorate) was established to rapidly research, test and develop Warfighter medical solutions and products, through pilot projects or prototypes that provide mission critical value and actionable information to the DoD, including Services, combatant commanders, and the Department of Veterans Affairs.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Pacific-Based Joint Information Technology Center - Maui (JITC-Maui) (HIT)	3.594	7.882	4.748
Description: Management support for research projects at Pacific Joint Information Technology Center (JITC). ***FY 2013 Accomplishments:*** The Pacific JITC managers have worked with the functional end users and Defense Health Agency sponsors mapping proposals and initiatives critical to the Warfighter, addressing medical research capability gaps, and Department requirements. JITC managers also maintained, utilized, and promoted use of the Pacific JITC Independent Verification and Validation (IV & V) lab by government entities including the testing and integration of Department Warfighter projects within the Sensitive Compartment Information Facility (SCIF) laboratory. ***FY 2014 Plans:*** The Pacific JITC managers work with the functional end users and Defense Health Agency sponsors to map proposals and initiatives critical to the Warfighter, address Joint Service capability gaps, and Department requirements. ***FY 2015 Plans:*** Pacific JITC will maintain, utilize, and promote use of the Pacific JITC Integrated Test and Evaluation Center (ITEC) (IV & V) by government entities including the testing and integration of Department Warfighter projects within the SCIF laboratory. The Pacific JITC will continue to work with functional end users and Defense Health Agency sponsors to map proposals and initiatives critical to the Warfighter, address Joint Service capability gaps, and Department requirements.			
Accomplishments/Planned Programs Subtotals	3.594	7.882	4.748

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0606105HP / *Medical Program-Wide Activities*	**Project (Number/Name)** 368A / *Pacific-Based Joint Information Technology Center - Maui (JITC-Maui) (HIT)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Metric includes completed and documented analysis by the performer reflecting program execution and completion dates based on approved phasing.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0606105HP / *Medical Program-Wide Activities*	Project (Number/Name) 397T / *USAMRICD IO&T (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
397T: *USAMRICD IO&T (Army)*	17.154	5.641	8.544	5.003	-	5.003	0.103	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Funding supports the IO&T costs associated with MILCON for the US Army Medical Research Institute of Chemical Defense (USAMRICD), Aberdeen Proving Ground, MD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: USAMRICD IO&T (Army)	5.641	8.544	5.003

Description: The US Army Medical Research Institute of Chemical Defense (USAMRICD), Aberdeen Proving Ground, Maryland, initial outfitting and transition costs associated with military construction.

FY 2013 Accomplishments:

The FY13 USAMRICD IO&T program reflects the phased requirements based on construction progress as the building nears completion. Initial Outfitting (IO) equipment purchased in FY13 was from fiscal year equipment listings based on delivery lead time, building placement, installation, and bona-fide need criteria. FY13 transition costs were the incremental fiscal year requirements for operations that support this multi-year MILCON project. Transition funds provided for personnel, planning and acquisition support, movement support for materiel from the old to new or intermediate facility sites, commission and transition support, medical cleaning of the old site, and dual occupancy costs for the old and new site.

FY 2014 Plans:

The FY14 USAMRICD IO&T program reflects the phased requirements based on construction progress as the building nears completion. Any remaining IO equipment will be purchased for FY14 is from fiscal year equipment listings based on delivery lead time, building placement, installation, and bona-fide need criteria. FY14 transition costs are the incremental fiscal year requirements for operations that support this multi-year MILCON project. Funds provide for personnel, planning and acquisition support, movement support for materiel from the old to new or intermediate facility sites, old site equipment turn-in support, medical cleaning of old site, relocation of laboratory chemical agents, decommissioning support to include chemical and radiological survey and decontamination, phased dual occupancy costs of old and new sites, commissioning and transition support.

FY 2015 Plans:

The FY15 USAMRICD IO&T program reflects the phased requirements based on construction progress as the building nears completion. FY15 transition costs will be the incremental fiscal year requirements for operations that support this

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0606105HP / *Medical Program-Wide Activities*	**Project (Number/Name)** 397T / *USAMRICD IO&T (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
multi-year MILCON project. Funds will be used to provide for personnel, relocation of laboratory chemical agents, continued decommissioning support for chemical and radiological decontamination, phased dual occupancy costs of old and new sites, and any remaining commissioning and transition support.			
Accomplishments/Planned Programs Subtotals	5.641	8.544	5.003

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Metric includes completed and documented analysis by the performer reflecting program execution and completion dates based on approved phasing.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0606105HP / *Medical Program-Wide Activities*	Project (Number/Name) 401A / *CONUS Laboratory Support Clinical Infrastructure (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
401A: *CONUS Laboratory Support Clinical Infrastructure (Army)*	3.830	8.136	2.916	4.886	-	4.886	4.975	5.064	5.155	4.378	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

CONUS Laboratory Infrastructure Support (Army) funding provides management support requirements for research infrastructure at select laboratories and research sites that conduct basic to late-stage clinical research and evaluation of investigational products, such as biologics, drugs, and devices to treat/prevent polytrauma (multiple traumatic injuries), through collaborative efforts with the Military Health System's (MHS) Military Treatment Facilities (MTFs). MTFs provide access to patient populations who will benefit the most from the medical products and capabilities being developed. Military Relevance is a key component of this program. The research supported is aimed at protecting, supporting, and advancing the health and welfare of military personnel, families, and communities while supporting the development of military researchers and the MHS research culture. These products are required to be approved through the US Food and Drug Administration (FDA) regulatory process prior to general use in humans. The funds sustain significant expertise and knowledge independent of the number of assigned projects. Institutional Review Board and Institutional Animal Care and Use Committee functions, research technical support, statistical support, grant writing assistance, and other essential functions for maintaining research in MTFs are provided by these infrastructure funds. The funds do not fund research but ensure the MTFs can compete for RDT&E research funds.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: CONUS Laboratory Support Clinical Infrastructure (Army)	8.136	2.916	4.886
Description: Management support for research infrastructure at select laboratories and research sites that conduct basic to late-stage clinical research and evaluation of investigational products, such as biologics, drugs, and devices to treat/prevent polytrauma (multiple traumatic injuries), through collaborative efforts with the MHS MTFs.			
FY 2013 Accomplishments: In FY13, this funding provided for the maintenance and expansion of the clinical research infrastructure needed at MTFs having relevant patient populations to conduct essential RDT&E clinical research (to include trials). The clinical research infrastructure funding was apportioned among the three Services, the Uniformed Services University of the Health Sciences, and the Joint Task Force National Capital Region Medical Command. CONUS laboratory support personnel, funded through this PE 0606105, prepared and submitted 22 applications for the FY13 Clinical Research Initiative (CRI) Intramural Investigator-Initiated Research Award, a PE 0604110 funded effort. Due to sequestration, the MTFs received less funding, which reduced the number of newly hired personnel to execute the program.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0606105HP / *Medical Program-Wide Activities*	**Project (Number/Name)** 401A / *CONUS Laboratory Support Clinical Infrastructure (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
In FY14, the established clinical research infrastructure supports the conduct of MTF-based RDT&E clinical research in areas such as traumatic brain injury and psychological health. The infrastructure supports RDT&E research being conducted at MTFs across the three Services, the Uniformed Services University of the Health Sciences, and the National Capital Region Medical Command. These MTFs are competing for FY14 RDT&E clinical research funding based on their research capabilities and applicable patient population. ***FY 2015 Plans:*** In FY15, the clinical research infrastructure will continue to support the conduct of MTF-based RDT&E clinical research in areas such as traumatic brain injury, psychological health, and clinical and rehabilitative medicine. Research will be conducted at MTFs across the three Services, the Uniformed Services University of the Health Sciences, and the Joint Task Force National Capital Region Medical Command. The program will be monitored for successful implementation.			
Accomplishments/Planned Programs Subtotals	8.136	2.916	4.886

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Metrics include completed and documented analysis by the performer reflecting program execution and completion dates based on approved phasing. Successful establishment of a sufficient infrastructure will result in close coordination and cooperation between the RDT&E community, Clinical Investigation Program, MTFs, and Defense Centers of Excellence communities with the initiation of new collaborative clinical studies and trials.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0606105HP / *Medical Program-Wide Activities*	Project (Number/Name) 432A / *OCONUS Laboratory Infrastructure Support (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
432A: *OCONUS Laboratory Infrastructure Support (Army)*	2.966	6.332	7.855	11.823	-	11.823	12.487	12.699	13.608	11.787	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Outside of the Continental United States (OCONUS) Laboratory Infrastructure Support provides management support for research infrastructure at selected overseas laboratories and research sites that conduct biosurveillance and basic to late-stage clinical research and evaluation of investigational products, such as biologics, drugs, and devices to treat/prevent infectious diseases for the purpose of protecting the Warfighter; this is accomplished through collaborative efforts with the respective host nation governments. These sites are the US Army Medical Research Unit-Kenya (USAMRU-K) in Nairobi, Kenya, the US Army Medical Research Unit-Georgia (USAMRU-G) in Tbilisi, Georgia, and the US Army Medical Component-Armed Forces Research Institute of Medical Sciences (USAMC-AFRIMS) in Bangkok, Thailand. USAMRU-G is the newest laboratory, and is being established to provide support in the Caucasus region, similar to that provided by the laboratories in Kenya and Thailand to East Africa and Southeast Asia regions.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: OCONUS Laboratory Infrastructure Support (Army)	6.332	7.855	11.823
Description: Management support for research infrastructure at selected overseas laboratories and research sites is integral to support the development and testing of improved means of predicting, detecting, preventing, and treating infectious disease threats to the US military, as well as support for surveillance, training, research, and response activities for emerging infectious disease threats that could affect Service Members in those regions.			
FY 2013 Accomplishments: Funding was applied to existing OCONUS infrastructure requirements at the Armed Forces Research Institute of Medical Sciences (AFRIMS) in Thailand, the US Army Research Unit-Kenya (USAMRU-K), and the US Army Medical Research Unit-Georgia (USAMRU-G) laboratories. Infrastructure sustainment costs consist of the administrative functions at the three laboratory sites, which support medical research and development of products such as biologics, drugs, and devices to treat/prevent infectious diseases. In USAMRU-G, funding is being used to establish a new laboratory platform at the direction of the Deputy Secretary of Defense (DEPSECDEF).			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0606105HP / *Medical Program-Wide Activities*	**Project (Number/Name)** 432A / *OCONUS Laboratory Infrastructure Support (Army)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Infrastructure funding costs for USAMC-AFRIMS and USAMRU-K laboratory support consist of administration and infrastructure support. Infrastructure funding for the USAMRU-G will continue to develop to meet administration and infrastructure support requirements. ***FY 2015 Plans:*** Infrastructure funding costs for USAMC-AFRIMS and USAMRU-K laboratory support will consist of administration and infrastructure support, which supports medical research and development of products such as biologics, drugs, and devices to treat/prevent infectious diseases. Infrastructure funding for the Republic of Georgia laboratory will further facilitate the establishment of this unit, as directed by the DEPSECDEF. The Concept Plan (CONPLAN) and Table of Distribution and Allowances (TDA) for USAMRU-G have been approved and we will begin to move military personnel to the area as well as hire local national personnel.			
Accomplishments/Planned Programs Subtotals	6.332	7.855	11.823

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Metrics include documented analysis reflecting program execution of sustainment and modernization of the administration and infrastructure support required for general research, test, and evaluation at the laboratories in Kenya and Thailand, and a time-phased effort for establishment of the same in the Republic of Georgia.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0606105HP / *Medical Program-Wide Activities*	Project (Number/Name) 433A / *NMRC Biological Defense Research Directorate (BDRD) (Navy)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
433A: *NMRC Biological Defense Research Directorate (BDRD) (Navy)*	-	2.978	4.229	3.586	-	3.586	3.975	4.148	4.968	3.796	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

For the Navy Bureau of Medicine and Surgery, this program element (PE) includes funds for the Medical Biological Defense research sub-function of the Naval Medical Research Center (NMRC) Biological Defense Research Directorate (BDRD) that relocated to Fort Detrick, Maryland under the Base Re-Alignment and Closure (BRAC) Commission 2005. Consequently, there are significant increases in the operational costs by virtue of being at Fort Detrick, a highly secure National Interagency Biodefense Campus (NIBC). Uninterrupted utilities to all buildings on NIBC are provided by a Central Utility Plant (CUP) whose capacity all partners on the NIBC are required to buy into. The annual projected costs are distributed amongst the partners based on square feet and number of occupants of the building. The NIBC campus is a fenced physical location with Entry Control Points (ECP). The partners on the campus are required to pay for the guard force manning their ECP. BDRD's ECP is ECP5 and the projected costs for the guard force.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: NMRC Biological Defense Research Directorate (BDRD) (Navy)	2.978	4.229	3.586
Description: Biological Defense Research is a completely reimbursable program. The program is sustained by competitive acquisition of research funding. The research dollars cannot pay for the increased operational costs of the program. The complete reimbursable nature of the program requires additional sustained core funding for its operational costs.			
FY 2013 Accomplishments: A significant amount of funding was used for increased costs related to the Central Utility Plant, Entry Control Point Security Force, and other operational costs for maintenance, refuse, and custodial requirements. These support functions enabled BDRD to meet its mission to protect the Warfighter from biological threat agents through the development and distribution of BW (Biological Warfare) agent detection assays, therapeutics, forensic analysis, and operation of deployable BW agent detection labs.			
FY 2014 Plans: Continue to provide funding for the Central Utility Plant, Entry Control Points Security Force and operational costs for maintenance, refuse, and custodial.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0606105HP / *Medical Program-Wide Activities*	**Project (Number/Name)** 433A / *NMRC Biological Defense Research Directorate (BDRD) (Navy)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Provide funding for the Central Utility Plant, Entry Control Points Security Force and operational costs necessary to achieve the mission critical functions of BW agent detection, analysis, and deployable BW diagnostic lab service.			
Accomplishments/Planned Programs Subtotals	2.978	4.229	3.586

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Metrics include timely delivery of targeted funding support for BDRD operations, required to meet mission of developing and deploying BW assays, therapeutics, forensic analysis, and BW diagnostic lab services in response to science sponsor timelines.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0606105HP / *Medical Program-Wide Activities*	Project (Number/Name) 442A / *USARIEM Pike's Peak IO&T (Army)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
442A: *USARIEM Pike's Peak IO&T (Army)*	-	-	0.193	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Funding supports the initial outfitting and transition (IO&T) research, development, test and evaluation (RDT&E) costs associated with MILCON for the US Army Research Institute of Environmental Medicine (USARIEM) at Pike's Peak, Colorado.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: USARIEM Pike's Peak IO&T (Army)	-	0.193	-
Description: Supports the initial outfitting and transition (IO&T) research, development, test and evaluation (RDT&E) costs associated with MILCON for the US Army Research Institute of Environmental Medicine (USARIEM) at Pike's Peak, Colorado. ***FY 2013 Accomplishments:*** No funds programmed. ***FY 2014 Plans:*** Provides for purchase of equipment designated as Category C (CAT C) government furnished and government installed (GFGI) equipment purchased from other than MILCON appropriations. It will also provide for transition funds that are extraordinary operational costs incurred as a direct result of the MILCON project, and that are not part of the normal operational costs. ***FY 2015 Plans:*** No funding programmed.			
Accomplishments/Planned Programs Subtotals	-	0.193	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0606105HP / *Medical Program-Wide Activities*	**Project (Number/Name)** 442A / *USARIEM Pike's Peak IO&T (Army)*

E. Performance Metrics

Metric includes completed and documented analysis by the performer reflecting program execution and completion dates based on approved phasing.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0606105HP / *Medical Program-Wide Activities*	Project (Number/Name) 115T / *MILCON IO&T*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
115T: *MILCON IO&T*	-	-	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Provides for initial outfitting and transition (IO&T) cost requirements for replacement of research, development, test and evaluation (RDT&E) medical laboratories funded under multi-year military construction (MILCON) projects.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: MILCON IO&T	-	-	-
Description: Provides for initial outfitting and transition (IO&T) cost requirements for replacement of research, development, test and evaluation (RDT&E) medical laboratories funded under multi-year military construction (MILCON) projects.			
FY 2013 Accomplishments: No funding programmed.			
FY 2014 Plans: No funding programmed.			
FY 2015 Plans: No funding programmed.			
Accomplishments/Planned Programs Subtotals	-	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Metric includes completed and documented analysis by the performer reflecting program execution and completion dates based on approved phasing.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0607100HP *I Medical Products and Capabilities Enhancement Activities*

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	14.146	8.177	14.236	15.092	-	15.092	17.356	17.647	19.663	19.663	Continuing	Continuing
377A: *GDF-Medical Products and Capabilities Enhancement Activities*	14.146	8.177	14.236	15.092	-	15.092	17.356	17.647	19.663	19.663	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force-Medical Products and Capabilities Enhancement Activities: Funds will support product improvements or evaluations of fielded, commercially available, or currently employed/practiced medical products, therapies, treatments, or medical guidelines to evaluate and/or improve their effectiveness. Included are development efforts to upgrade systems/products that have been fielded or that are routinely used in a fixed facility, or to upgrade systems/products that have received approval for full-rate production and for which procurement funding is anticipated in the current or subsequent fiscal years; development, engineering, and testing of changes to a fielded or procured system/product that alters its performance envelope; and analysis of data on the performance of fielded products or medical practices to identify the need or opportunity for changes. Projects will be funded that provide clinical outcome follow-ups to military unique clinical practice guidelines. In addition, medical IM/IT systems upgrades will be sought for product improvements that will integrate medical injury and autopsy data with non-medical and live fire testing data, and blast sensor field data will be analyzed to determine if the data can be used to confidently predict head injury. These IM/IT enhancements will allow improved prediction of injuries, the knowledge of which will impact improvements to fighting/support vehicles and protective equipment that will ultimately reduce injuries. Efforts address the Military Health System family of Concept of Operations documents and follow-on Capabilities Based Assessments/Joint Capability Documents, appropriate Component requirements, legislative and Executive directives (e.g., National Research Action Plan, Office of Management and Budget Combat Casualty Care Assessment, National Defense Authorization Acts, etc.) and others as appropriate.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	15.815	14.646	18.231	-	18.231
Current President's Budget	8.177	14.236	15.092	-	15.092
Total Adjustments	-7.638	-0.410	-3.139	-	-3.139
• Congressional General Reductions	-0.021	-			
• Congressional Directed Reductions	-7.325	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.292	-0.410			
• Reductions related to Departmental Efficiencies - Project 377A	-	-	-3.139	-	-3.139

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program	Date: March 2014
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0607100HP *I Medical Products and Capabilities Enhancement Activities*

Change Summary Explanation

FY 2013: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0607100-Medical Products and Capabilities Enhancement Activities (-$0.292 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+$0.292 million).

FY 2013: General Congressional Reductions to DHP RDT&E, PE 0607100-Medical Products and Capabilities Enhancement Activities (-$0.021 million).

FY 2013: Congressional Directed Reductions (Sequestration) to DHP RDT&E, PE 0607100-Medical Products and Capabilities Enhancement Activities (-$7.325 million).

FY 2014: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0607100-Medical Products and Capabilities Enhancement Activities (-$0.410 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+$0.410 million).

FY 2015: Reduces non-combat injury research funding in order to focus and continue the pace of progress in critical and high priority research areas for DHP RDT&E, PE 0607100-Medical Products and Capabilities Enhancement Activities (-$3.139 million).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program			Date: March 2014
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0607100HP / *Medical Products and Capabilities Enhancement Activities*	Project (Number/Name) 377A / *GDF-Medical Products and Capabilities Enhancement Activities*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
377A: *GDF-Medical Products and Capabilities Enhancement Activities*	14.146	8.177	14.236	15.092	-	15.092	17.356	17.647	19.663	19.663	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force-Medical Products and Capabilities Enhancement Activities: Funds will support product improvements or evaluations of fielded, commercially available, or currently employed/practiced medical products, therapies, treatments, or medical guidelines to evaluate and/or improve their effectiveness. Included are development efforts to upgrade systems/products that have been fielded or that are routinely used in a fixed facility, or to upgrade systems/products that have received approval for full-rate production and for which procurement funding is anticipated in the current or subsequent fiscal years; development, engineering, and testing of changes to a fielded or procured system/product that alters its performance envelope; and analysis of data on the performance of fielded products or medical practices to identify the need or opportunity for changes. Projects will be funded that provide clinical outcome follow-ups to military unique clinical practice guidelines. In addition, medical IM/IT systems upgrades will be sought for product improvements that will integrate medical injury and autopsy data with non-medical and live fire testing data, and blast sensor field data will be analyzed to determine if the data can be used to confidently predict head injury. These IM/IT enhancements will allow improved prediction of injuries, the knowledge of which will impact improvements to fighting/support vehicles and protective equipment that will ultimately reduce injuries. Efforts address the Military Health System family of Concept of Operations documents and follow-on Capabilities Based Assessments/Joint Capability Documents, appropriate Component requirements, legislative and Executive directives (e.g., National Research Action Plan, Office of Management and Budget Combat Casualty Care Assessment, National Defense Authorization Acts, etc.) and others as appropriate.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: 377A: GDF – Medical Products and Capabilities Enhancement Activities	8.177	14.236	15.092
Description: Provide support for development efforts to upgrade medical products and capabilities that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.			
FY 2013 Accomplishments: Enhanced IM/IT systems, which capture and forward real time injury profiles to intelligence and materiel developer communities, analyze blast sensor field data (expanded to include three different sensor systems) to determine if the data can be used to confidently predict head injury, use anatomical and other models to improve injury prediction, and integrate medical injury and autopsy data with non medical and live fire testing data, progressing toward the ultimate goal of all these IM/IT enhancements to protect the force from injuries while in combat and support combat vehicle development. Completed assessments of 6 Commercial Off-the-Shelf (COTS) Intravenous Fluid warmers for heating efficiency, size, weight, and overall cost were completed and made product recommendations to standardize this product within the Army sets, kits, and outfits resulting in a decreased			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0607100HP / *Medical Products and Capabilities Enhancement Activities*	**Project (Number/Name)** 377A / *GDF-Medical Products and Capabilities Enhancement Activities*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
logistical footprint. Completed prototype design of a modified Special Medical Emergency Evacuation Device to hold surgical instruments for AF Special Operations Command (AFSOC); built and fielded 8 functional prototypes which are now in use by AFSOC Forward Surgical teams. Fabricated prototype of a foldable NATO litter stand for use in point-of-injury surgeries for AFSOC. New projects undertaken with FY13 funds included: a) modification and testing of a new commercially available anti-rotational device to control rotational movement of a litter during patient evacuation by helicopter, b) adaptation of shelter liners and environmental control units for chemical and biological resistance to function in the Combat Support Hospital setting, c) evaluation of the effectiveness of Army Combat Uniforms treated with permethrin as a barrier to ticks and mosquitoes following extended periods of use, d) evaluation of FDA-approved commercial products to control severe junctional (e.g., groin, pelvis) bleeding, and e) assessment of whether, in the case of above-knee amputees, microprocessor knee or powered knee prostheses are preferable for initial fit.			
FY 2014 Plans: Funds are to enhance, modify, upgrade, test, and evaluate fielded medical materiel and practices. Investments lead to greater protection for the force from injuries while in fighting and support vehicles, improved equipment, and medical best practices. Efforts enhance medical IM/IT systems that analyze blast sensor field data to determine if the data can be used to confidently predict head injury, and to provide anatomical and other model enhancements to improve injury prediction. Funds support data collection to evaluate the effectiveness of Army Combat Uniforms treated with permethrin as a barrier to ticks and mosquitoes following extended periods of use, and completion of projects to a)evaluate FDA-approved commercial products to control severe junctional (e.g., groin, pelvis) bleeding, b) assess whether, in the case of above-knee amputees, microprocessor knee or powered knee prostheses are preferable for initial fit, c) analyze outcomes of the use of regional anesthesia for combat casualty care in the US Military Healthcare System from 2003-2012, d) evaluate an anti-rotational device to control rotational movement of a litter during patient evacuation by helicopter, and e) test (and modify if necessary) commercially available lightweight carbon fiber spine boards (for immobilization and transport of injured persons) to replace the large, bulky ones currently in use.			
FY 2015 Plans: Funds will be used to enhance, modify, upgrade, test, and evaluate fielded medical materiel and practices. The focus will be to ensure that performance requirements of materiel such as medical sets, kits and outfits in need of upgrade or replacement, or to be used in an expanded or altered environment from which they originally entered service, are met. Additionally, work will be funded that provides clinical outcome follow-ups to military unique clinical practice guidelines. Investments will continue to lead to greater protection for the force from injuries while in combat and support combat vehicle development, improved equipment, and medical best practices. Efforts will be completed to enhance medical IM/IT systems that analyze blast sensor field data to determine if the data can be used to confidently predict head injury. Funds will support ongoing evaluation of the effectiveness of Army Combat Uniforms treated with permethrin, as a barrier to ticks and mosquitoes, following extended periods of use.			
Accomplishments/Planned Programs Subtotals	8.177	14.236	15.092

Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0607100HP / *Medical Products and Capabilities Enhancement Activities*	**Project (Number/Name)** 377A / *GDF-Medical Products and Capabilities Enhancement Activities*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Integrate product improvements and enhancements resulting from post marketing studies and surveillance.

E. Performance Metrics

Principal Investigators will provide quarterly reports and a final report. Performance is measured based on the number of products for which testing either certifies use in a given environment (e.g., sufficiently ruggedized, airworthiness testing) and/or results in a recommendation of a specific product, and delivery of an enhanced product or knowledge product. The benchmark performance metric for research supported in this PE will be the enhancement of a maturity level that is typical of TRL 9.

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