Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency											Date: March 2023	
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0601117DHA *I Basic Operational Medical Research Sciences*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	34.721	24.938	53.783	40.311	0.000	40.311	41.476	41.708	41.911	42.751	Continuing	Continuing
100A: *Congressional Special Interests*	9.782	15.999	14.215	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
371: *GDF - Basic Operational Medical Research Science*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
371A: *GDF - BOMRS (Combat Casualty Care)*	17.330	1.306	1.356	1.381	0.000	1.381	1.410	1.437	1.466	1.495	Continuing	Continuing
371B: *GDF - BOMRS (Military Operational Medicine)*	5.498	5.515	5.720	5.836	0.000	5.836	5.953	6.072	6.193	6.317	Continuing	Continuing
371E: *GDF - BOMRS (Military Infectious Disease)*	2.111	2.118	2.197	2.241	0.000	2.241	2.285	2.331	2.378	2.426	Continuing	Continuing
371F: *GDF - BOMRS (Defense Research Sciences)*	0.000	0.000	30.295	30.853	0.000	30.853	31.828	31.868	31.874	32.513	Continuing	Continuing

Note

N/A

A. Mission Description and Budget Item Justification

Guidance for Development of the Force (GDF) -Basic 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. Research in this PE is designed to address areas of interest to the Secretary of Defense regarding Service Member Health, capabilities identified through the Joint Capabilities Integration and Development System, and sustainment of DoD and multi-agency priority investments in science, technology, research, and development.

GDF basic research (PE 0601117) program development and execution 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, and the Department of Health and Human Services. 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 0602115) or technology development (PE 0603115) funding.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0601117DHA *I Basic Operational Medical Research Sciences*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	9.091	39.568	40.311	0.000	40.311
Current President's Budget	24.938	53.783	40.311	0.000	40.311
Total Adjustments	15.847	14.215	0.000	0.000	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	15.999	14.215			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.152	-			

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 100A: *Congressional Special Interests*		
Congressional Add: *GDF - Restore Core Research Funding Reduction*	15.999	14.215
Congressional Add Subtotals for Project: 100A	15.999	14.215
Congressional Add Totals for all Projects	15.999	14.215

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601117DHA / *Basic Operational Medical Research Sciences*	Project (Number/Name) 100A / *Congressional Special Interests*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
100A: *Congressional Special Interests*	9.782	15.999	14.215	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

This is program increase due to GDF restoral in the FY22 enacted budget.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF - Restore Core Research Funding Reduction	0.000	-	-	-	-
Accomplishments/Planned Programs Subtotals	0.000	-	-	-	-

	FY 2022	FY 2023
Congressional Add: GDF - Restore Core Research Funding Reduction	15.999	14.215
FY 2022 Accomplishments: This is a program increase due to GDF restoral in the FY22 enacted budget.		
FY 2023 Plans: This is a program increase due to GDF restoral in the FY23 enacted budget.		
Congressional Adds Subtotals	15.999	14.215

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601117DHA / *Basic Operational Medical Research Sciences*	Project (Number/Name) 371 / *GDF - Basic Operational Medical Research Science*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
371: *GDF - Basic Operational Medical Research Science*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

Guidance for Development of the Force (GDF) - Basic 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. Research in this PE is designed to address areas of interest to the Secretary of Defense regarding Service Member Health, capabilities identified through the Joint Capabilities Integration and Development System, and sustainment of DoD and multi-agency priority investments in science, technology, research, and development.

GDF basic research (PE 0601117) program development and execution 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, and the Department of Health and Human Services. 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 0602115) or technology development (PE 0603115) funding.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Project 371 GDF – Basic Operational Medical Research Sciences	0.000	0.000	0.000	0.000	0.000
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 2023 Plans:*** N/A ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0601117DHA / *Basic Operational Medical Research Sciences*	**Project (Number/Name)** 371 / *GDF - Basic Operational Medical Research Science*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601117DHA / *Basic Operational Medical Research Sciences*	Project (Number/Name) 371A / *GDF - BOMRS (Combat Casualty Care)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
371A: *GDF - BOMRS (Combat Casualty Care)*	17.330	1.306	1.356	1.381	0.000	1.381	1.410	1.437	1.466	1.495	Continuing	Continuing

A. Mission Description and Budget Item Justification

Basic research described here focuses on the enhancement of knowledge to support capabilities identified through the Joint Capabilities Integration Development System process and sustainment of DoD and multi-agency priority investments in science, technology, research and development. This project supports combat casualty care basic research with the goal of optimizing Warfighter survival and recovery from combat-related injury in current and future operational scenarios by driving medical innovation through development of knowledge and materiel solutions for the acute and early management of combat-related trauma, including point of injury, en route, and facility-based care.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Combat Casualty Care	1.306	1.356	1.381	0.000	1.381
Description: Combat Casualty Care basic research activities are focused on pre-hospital tactical combat casualty care (TCCC) toward improved Warfighter survival of casualties with potentially survivable wounds. ***FY 2023 Plans:*** Will continue to conduct combat casualty care-relevant basic research focused on TCCC, such as defining biological and pathophysiological mechanisms of the acute effects of trauma including that of life threatening external, junctional (arm pit and groin), and internal (abdomen and chest) bleeding; abnormal blood clotting due to excessive blood loss; and compromised breathing due trauma to the thorax or airways. ***FY 2024 Base Plans:*** Efforts will continue to focus on Basic Research related to TCCC; defining biological and pathophysiological mechanisms of the acute effects of trauma including that of life threatening external bleeding, excessive blood loss resulting in abnormal blood clotting; trauma to airways resulting in compromised breathing. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to inflation.					
Accomplishments/Planned Programs Subtotals	1.306	1.356	1.381	0.000	1.381

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0601117DHA / *Basic Operational Medical Research Sciences*	**Project (Number/Name)** 371A / *GDF - BOMRS (Combat Casualty Care)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601117DHA / *Basic Operational Medical Research Sciences*	Project (Number/Name) 371B / *GDF - BOMRS (Military Operational Medicine)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
371B: *GDF - BOMRS (Military Operational Medicine)*	5.498	5.515	5.720	5.836	0.000	5.836	5.953	6.072	6.193	6.317	Continuing	Continuing

A. Mission Description and Budget Item Justification

Basic research described here focuses on the enhancement of knowledge to support capabilities identified through the Joint Capabilities Integration Development System process and sustainment of DoD and multi-agency priority investments in science, technology, research and development. This project supports military operational medicine basic research with the goal of maximizing the health, readiness, and performance of Service Members and their families by the development of effective biomedical countermeasures against operational stressors, and prevention and treatment of physical and psychological injuries during training and operations.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Military Operational Medicine	5.515	5.720	5.836	0.000	5.836
Description: Military Operational Medicine basic research efforts are focused on increasing fundamental knowledge and understanding to support the development of medical countermeasures in the areas of musculoskeletal injury prevention and treatment; blunt, blast, accelerative and neurosensory injury; psychological health and resilience; performance in extreme environments; and optimized cognition and fatigue mitigation.					
FY 2023 Plans: Continue to conduct basic research with focus on injury prevention and recovery related to blunt, blast, and accelerative injuries; injury prevention and recovery related to musculoskeletal injury; performance nutrition and weight balance; operational systems toxicology for environmental health hazards; and fatigue, cognitive health and performance.					
FY 2024 Base Plans: Efforts will continue to focus on Basic Research related to injury prevention and recovery related to blunt, blast, and accelerative injuries; injury prevention and recovery related to musculoskeletal injury; performance nutrition and weight balance; operational systems toxicology for environmental health hazards; and fatigue, cognitive health and performance.					
FY 2024 OCO Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0601117DHA / *Basic Operational Medical Research Sciences*	**Project (Number/Name)** 371B / *GDF - BOMRS (Military Operational Medicine)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Increase is due to inflation.					
Accomplishments/Planned Programs Subtotals	5.515	5.720	5.836	0.000	5.836

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601117DHA / *Basic Operational Medical Research Sciences*	Project (Number/Name) 371E / *GDF - BOMRS (Military Infectious Disease)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
371E: *GDF - BOMRS (Military Infectious Disease)*	2.111	2.118	2.197	2.241	0.000	2.241	2.285	2.331	2.378	2.426	Continuing	Continuing

A. Mission Description and Budget Item Justification

Basic research described here focuses on the enhancement of knowledge to support capabilities identified through the Joint Capabilities Integration Development System process and sustainment of DoD and multi-agency priority investments in science, technology, research and development. This project supports military infectious diseases basic research toward the goal of preventing and treating infectious disease threats to eliminate their impacts on operational readiness.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Military Infectious Diseases	2.118	2.197	2.241	0.000	2.241
Description: Military infectious diseases basic research activities support efforts in military relevant emerging infectious diseases threats. ***FY 2023 Plans:*** Will continue to conduct basic research in emerging infectious diseases to respond to new and emerging infectious diseases threats and accelerate promising, innovative countermeasures. ***FY 2024 Base Plans:*** Efforts will continue to focus on basic research related to response to and countermeasures against new and emerging infectious diseases. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to inflation.					
Accomplishments/Planned Programs Subtotals	2.118	2.197	2.241	0.000	2.241

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0601117DHA / *Basic Operational Medical Research Sciences*	**Project (Number/Name)** 371E / *GDF - BOMRS (Military Infectious Disease)*

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601117DHA / *Basic Operational Medical Research Sciences*	Project (Number/Name) 371F / *GDF - BOMRS (Defense Research Sciences)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
371F: *GDF - BOMRS (Defense Research Sciences)*	0.000	0.000	30.295	30.853	0.000	30.853	31.828	31.868	31.874	32.513	Continuing	Continuing

A. Mission Description and Budget Item Justification

Basic research described here focuses on building fundamental scientific knowledge contributing to the sustainment of scientific and technology information for solving military medical problems related to infectious diseases, operational medicine and combat care.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF - BOMRS (Defense Research Sciences)	0.000	30.295	30.853	0.000	30.853

Description: Programmatic transfer in accordance with the 711/737 US Army Medical Research and Development Command transfer to Defense Health Agency in support of Medical Systems, Advanced Technology & Development from Army PE 0601102A. This project provides the means to exploit scientific breakthroughs and avoid technological surprises, and fosters innovation in military medicine-relevant areas where there is little or no commercial investment due to limited markets and maintains laboratory capability to perform these functions.

FY 2023 Plans:
Efforts will focus on Basic Research in support of medical problems related to infectious diseases, operational medicine and combat care.

FY 2024 Base Plans:
Efforts will focus on Basic Research in support of military medical problems related to Autonomous Care and Evacuation, Aviation Medicine, Brain Trauma, Burn Injury, Combined Injury, Endemic and Emerging Infectious Diseases, En Route Care, Health in Extreme Environments, Neuromusculoskeletal Injury Prevention & Treatment, Psychological Health Prevention & Treatment, Prolonged Care, Tactical Combat Casualty Care, Sustainment of Expeditory Medical Skills, Sustained Medical Readiness, Warfighter Protection & Survivability and Wound Management.

FY 2024 OCO Plans:
N/A

FY 2023 to FY 2024 Increase/Decrease Statement:

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0601117DHA / *Basic Operational Medical Research Sciences*	**Project (Number/Name)** 371F / *GDF - BOMRS (Defense Research Sciences)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Increase due to inflation.					
Accomplishments/Planned Programs Subtotals	0.000	30.295	30.853	0.000	30.853

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency											Date: March 2023	
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0602115DHA *I Applied Biomedical Technology*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	333.218	160.265	258.734	177.395	0.000	177.395	187.036	175.039	176.659	180.182	Continuing	Continuing
200A: *Congressional Special Interests*	130.175	87.496	84.725	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
216: *Anomalous Health Incidents (AHI)*	0.000	0.000	15.000	15.000	0.000	15.000	15.000	0.000	0.000	0.000	Continuing	Continuing
306B: *Advanced Diagnostics & Therapeutics Research & Development (AF)*	3.476	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
306D: *Advanced Diagnostics & Therapeutics Research & Development - Medical and Operational Biosciences (AF)*	7.480	4.142	4.385	4.473	0.000	4.473	4.567	4.658	4.752	4.847	Continuing	Continuing
372: *GDF - Applied Biomedical Technology*	123.729	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
372A: *GDF - ABT (Combat Casualty Care)*	14.855	15.931	17.459	21.789	0.000	21.789	22.125	22.468	22.817	23.213	Continuing	Continuing
372B: *GDF - ABT (Military Operational Medicine)*	26.255	33.510	34.706	35.357	0.000	35.357	36.061	36.785	37.521	38.273	Continuing	Continuing
372C: *GDF - ABT (Medical Simulation & Training/Health Informatics)*	10.611	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
372D: *GDF - ABT (Clinical and Rehabilitation Medicine)*	7.064	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
372E: *GDF - ABT (Military Infectious Disease)*	8.607	18.305	18.995	15.396	0.000	15.396	15.804	16.220	16.644	17.037	Continuing	Continuing
372F: *GDF - ABT (Radiological Health Effects)*	0.966	0.881	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
372G: *GDF - ABT (Medical Technology)*	0.000	0.000	83.464	85.380	0.000	85.380	93.479	94.908	94.925	96.812	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0602115DHA *I Applied Biomedical Technology*

A. Mission Description and Budget Item Justification

This program element (PE) provides applied research funding to refine concepts and ideas into potential solutions for military health and performance problems, with a view toward evaluating technical feasibility. Research in this PE is designed to address areas of interest to the Secretary of Defense regarding Wounded Warriors, capabilities identified through the Joint Capabilities Integration and Development System, and sustainment of DoD and multi-agency priority investments in science, technology, research, and development. Medical research, development, test, and evaluation (RDT&E) priorities for the Defense Health Program (DHP) are guided by, and will support, the National Defense Strategy, the National Research Action Plan for Improving Access to Mental Health Services for Veterans, Service Members, Military Families, the National Strategy for Combating Antibiotic Resistance, and the National Strategy for Biodefense.

Program development and execution 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 and, the Department of Health and Human Services. Funds in the PE support studies and investigations leading to candidate solutions that may involve use of animal models for testing in preparation for initial human testing. As research efforts mature, the most promising efforts will transition to technology development (PE 0603115) funding.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	74.024	174.009	177.395	0.000	177.395
Current President's Budget	160.265	258.734	177.395	0.000	177.395
Total Adjustments	86.241	84.725	0.000	0.000	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	88.721	84.725			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.480	-			

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 200A: *Congressional Special Interests*		
Congressional Add: *462 - GDF - Restore Core Research Funding Reduction*	77.861	84.725
Congressional Add: *248 Congressional Add*	9.635	-
Congressional Add Subtotals for Project: 200A	87.496	84.725
Project: 372G: *GDF - ABT (Medical Technology)*		
Congressional Add: *Add input*	0.000	-
Congressional Add Subtotals for Project: 372G	0.000	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0602115DHA *I Applied Biomedical Technology*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Congressional Add Totals for all Projects	87.496	84.725

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115DHA / *Applied Biomedical Technology*	Project (Number/Name) 200A / *Congressional Special Interests*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
200A: *Congressional Special Interests*	130.175	87.496	84.725	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

This is a program increase due to GDF restoral in the FY22 enacted budget.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
Congressional Add: 462 - GDF - Restore Core Research Funding Reduction ***FY 2022 Accomplishments:*** This is a program increase due to GDF restoral in the FY22 enacted budget. ***FY 2023 Plans:*** This is a program increase due to GDF restoral in the FY23 enacted budget.	77.861	84.725
Congressional Add: 248 Congressional Add ***FY 2022 Accomplishments:*** Congressional Add	9.635	-
Congressional Adds Subtotals	87.496	84.725

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115DHA / *Applied Biomedical Technology*	**Project (Number/Name)** 216 / *Anomalous Health Incidents (AHI)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
216: *Anomalous Health Incidents (AHI)*	0.000	0.000	15.000	15.000	0.000	15.000	15.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

Anomalous Health Incidents (AHI) are unexplained medical symptoms that occur after being potentially exposed to certain auditory or sensory disturbances. It can be further described as experiencing a sudden onset of perceived loud sounds, sensations of head pressure or vibrations, head or ear pain, hearing loss or ringing, dizziness, unsteady gait, visual disturbances, or cognitive deficit.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Anomalous Health Incidents (AHI) ***Description:*** Anomalous Health Incidents (AHI) are unexplained medical symptoms that occur after being potentially exposed to certain auditory or sensory disturbances. It can be further described as experiencing a sudden onset of perceived loud sounds, sensations of head pressure or vibrations, head or ear pain, hearing loss or ringing, dizziness, unsteady gait, visual disturbances, or cognitive deficit. ***FY 2023 Plans:*** Our research will further examine why AHIs occur, who is at-risk, and what the short- and long-term health effects are. Program development and execution is peer-reviewed and coordinated with DoS, DoD, the Intelligence Community, and other federal entities as they continue to investigate AHIs through numerous interagency efforts. ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A	0.000	15.000	15.000	0.000	15.000
Accomplishments/Planned Programs Subtotals	0.000	15.000	15.000	0.000	15.000

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115DHA / *Applied Biomedical Technology*	**Project (Number/Name)** 216 / *Anomalous Health Incidents (AHI)*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115DHA / *Applied Biomedical Technology*	Project (Number/Name) 306B / *Advanced Diagnostics & Therapeutics Research & Development (AF)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
306B: *Advanced Diagnostics & Therapeutics Research & Development (AF)*	3.476	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project provides applied research funding needed to increase efficiency and efficacy of care across the spectrum of Advanced Diagnostics and Therapeutics requirements to improve and enhance clinical Diagnosis, Identification, Quantification and Mitigation (DIQM) methods, technique protocols, guidelines and practices for all Department of Defense (DoD) wounded, ill, and/or injured beneficiaries.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Advanced Diagnostics & Therapeutics Research & Development (AF)	0.000	0.000	0.000	0.000	0.000

Description: This project provides applied research funding needed to perform research in the area of diagnostic assay development / refinement for diseases of operational significance. Project funds seek 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.

FY 2023 Plans:
N/A

FY 2024 Base Plans:
N/A

FY 2024 OCO Plans:
N/A

FY 2023 to FY 2024 Increase/Decrease Statement:

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115DHA / *Applied Biomedical Technology*	**Project (Number/Name)** 306B / *Advanced Diagnostics & Therapeutics Research & Development (AF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115DHA / *Applied Biomedical Technology*	**Project (Number/Name)** 306D / *Advanced Diagnostics & Therapeutics Research & Development - Medical and Operational Biosciences (AF)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
306D: *Advanced Diagnostics & Therapeutics Research & Development - Medical and Operational Biosciences (AF)*	7.480	4.142	4.385	4.473	0.000	4.473	4.567	4.658	4.752	4.847	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project provides applied research to define and develop medical attribute-linked solutions to better address Air Force operational readiness and mission effectiveness. This research develops approaches aimed at increasing the understanding of full spectrum factors impacting health and performance across Air Force operating environments, to include critical Air Force-supported mission areas of air and space superiority, aeromedical evacuation, communications and intelligence systems, global information operations, reconnaissance and electronic-combat aircraft. Includes research in operationally relevant Air and Space environments pertaining to Biomedical Impact of Air and Space, Biotechnology for Health and Performance, Cognitive and Physiological Performance, and Health and Performance Sensing and Assessment. This project supports needs outlined in Air Force (AF) and Air Force Medical Service (AFMS) strategic documents. Research within this project includes but is not limited to the following: understand the physical and cognitive attributes most important for human performance in air and space operations, facilitate medical readiness maintenance in air and space operations with military labor support, understand the patient validation requirements for a rocket cargo capability, determine how personal health monitoring devices may be used to support scalable medical command and control in air and space operations, develop modules for the human and weapon system which incorporates medical readiness factors into the kill-chain, develop science and technology to prevent and treat chronic health issues associated with air and space operations with minimal labor resourcing, understand value-driven medical readiness requirements for tip-of-spear operators, and investigate physio-cognitive sensor technology to inform medical readiness and human performance boundary status.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Advanced Diagnostics & Therapeutics Research & Development - Medical and Operational Biosciences (AF)	4.142	4.385	4.473	0.000	4.473
Description: Applied research to develop approaches to increase the understanding of the underlying medical and biological mechanisms of health in air and space operational environments that link to optimizing mission performance and readiness. Research will identify metrics of physical, cognitive, behavioral, physiological, sensory and motor attributes. This will shape medically relevant screening, risk-assessment, retention and return-to-duty criteria through data driven risk analysis and mitigation actions, and enhance the delivery of Air Force operational care.					
FY 2023 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115DHA / *Applied Biomedical Technology*	**Project (Number/Name)** 306D / *Advanced Diagnostics & Therapeutics Research & Development - Medical and Operational Biosciences (AF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Enhance knowledge base regarding medical equipment performance in cold region environment. Enhance medical understanding for cognitive sustainment of airman and guardians to include a deeper understanding of physiologic degradation and limitations by defining, measuring, and forecasting key aerospace-linked physiologic/anatomic characteristics which tie to operator readiness and performance. Develop physical and physio-cognitive assessments via wearables embedded with physiological sensors and rapid assessments to determine readiness for Air Force mission sets. Investigate new screening tests and methods, which leverage neuroscience tools to optimize operator alignment and facilitate return-to-duty decisions. Incorporate physiological estimates of fatigue, cognitive load and effectiveness of countermeasures into war-gaming exercises. Measure critical aircrew biodynamic and chronic health-related parameters to inform model design and aircraft design mitigation strategies. Evaluate potential injured patient transit capabilities. Develop microbiome-gut-brain in vitro model systems to determine how gut microbiota impacts energy homeostasis during temperature extremes during air and space operations. Evaluate thermal burden impacts on cognition. Examine telemedicine, telemonitoring, and telementoring (TM3) network threats, develop courses of action and a network proof-of-concept design for a peer-engagement operation. Explore real-time decision support tools for use in communication-denied environments. Design sensor platforms to continuously measure hydration, kidney/ muscle function, etc. and assess patient state and response to interventions for mass casualty response and/or en route care. Further evaluation of genetic predisposition to hypoxia induced cognitive decrement.					
FY 2024 Base Plans: Inform emerging sensor and artificial intelligence development using knowledge gained in FY 2023. Examine relationship between medical screening tests and simulated performance and capability of physiological metrics which signal changes in performance related to workload and fatigue. Validate link between physical/physio-cognitive assessments and evidence-based interventions to promote behavioral changes to enhance readiness, health, and performance. Incorporate real-world parameter estimates from performance-related datasets and demonstrate performance modeling including appropriate decrements. Understand the etiology of repetitive sub-acute accelerative loading on human soft tissues leading to chronic injury and disease. Quantify effect of cold and heat stress on gut microbiome. Perform Africa, South Pacific, and Arctic TM3 network threat assessment, design courses of action, and develop proof-of-concept for austere, electromagnetic constrained environment.					
FY 2024 OCO Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115DHA / *Applied Biomedical Technology*	**Project (Number/Name)** 306D / *Advanced Diagnostics & Therapeutics Research & Development - Medical and Operational Biosciences (AF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Increase is due to inflation.					
Accomplishments/Planned Programs Subtotals	4.142	4.385	4.473	0.000	4.473

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115DHA / *Applied Biomedical Technology*	Project (Number/Name) 372 / *GDF - Applied Biomedical Technology*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
372: *GDF - Applied Biomedical Technology*	123.729	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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 for military problems and conducting analyses of alternatives to select the best potential solution for further advanced technology development. Applied research is managed by the Joint Program Committees in the following areas: 1- Military Infectious Diseases applied research is developing protection and treatment capabilities for military relevant emerging infectious diseases and wound infections. 2- Military Operational Medicine applied research goals are to develop medical countermeasures against operational stressors, prevent and treat musculoskeletal, neurosensory, and psychological injuries during training and operations, and to maximize health, performance and readiness of Service members. 3- Combat Casualty Care applied research is focused on optimizing survival and recovery in injured Service members across the spectrum of care from point of injury through en route and facility care.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF Applied Biomedical Technology	0.000	0.000	0.000	0.000	0.000
Description: Focus is 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. Evaluate technical feasibility of potential solutions to military health issues. Implement models into data or knowledge and test in a laboratory environment. Technology Transition and Milestone A packages will be developed to facilitate product transition. ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115DHA / *Applied Biomedical Technology*	**Project (Number/Name)** 372 / *GDF - Applied Biomedical Technology*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115DHA / *Applied Biomedical Technology*	Project (Number/Name) 372A / *GDF - ABT (Combat Casualty Care)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
372A: *GDF - ABT (Combat Casualty Care)*	14.855	15.931	17.459	21.789	0.000	21.789	22.125	22.468	22.817	23.213	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project supports applied research with the goal of optimizing Warfighter survival and recovery from combat-related injury in current and future operational scenarios by driving medical innovation through development of knowledge and materiel solutions for the management of combat-related trauma. Applied biomedical research will focus on refining concepts and ideas into potential solutions for military problems and conducting analysis of alternatives to select the best potential solutions for further advanced technology development.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Combat Casualty Care	15.931	17.459	21.789	0.000	21.789
Description: Combat Casualty Care applied research activities are focused on care in the areas of prolonged field care; pre-hospital tactical combat casualty care; battlefield traumatic brain injury/neurotrauma and burn injury. ***FY 2023 Plans:*** Will continue Combat Casualty Care applied research activities focused on establishing preclinical and clinical effects of prolonged care technologies, early interventions for acute traumatic brain injury, and innovative products for resuscitation and immediate stabilization of combat casualties in a scenario of multi-domain operations. ***FY 2024 Base Plans:*** Efforts will continue to focus on combat casualty care applied research to include establishing preclinical and clinical effects of prolonged care technologies, early interventions for acute traumatic brain injury, and innovative products for resuscitation and immediate stabilization of combat casualties in a scenario of multi-domain operations. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:***					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115DHA / *Applied Biomedical Technology*	**Project (Number/Name)** 372A / *GDF - ABT (Combat Casualty Care)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Increase supports combat casualty care applied research to enable combined injury care during joint all domain operations.					
Accomplishments/Planned Programs Subtotals	15.931	17.459	21.789	0.000	21.789

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115DHA / *Applied Biomedical Technology*	Project (Number/Name) 372B / *GDF - ABT (Military Operational Medicine)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
372B: *GDF - ABT (Military Operational Medicine)*	26.255	33.510	34.706	35.357	0.000	35.357	36.061	36.785	37.521	38.273	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project supports applied research with the goal of maximizing the health, readiness, and performance of Service members and their families by the development of effective biomedical countermeasures against operational stressors, and prevention and treatment of physical and psychological injuries during training and operations. Applied biomedical research will focus on refining concepts and ideas into potential solutions for military problems and conducting analysis of alternatives to select the best potential solutions for further advanced technology development.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Military Operational Medicine	33.510	34.706	35.357	0.000	35.357
Description: Studies, investigations, and non-system specific technology effort focus on injury prevention and recovery; optimized cognition and fatigue management; psychological health and resilience; and performance in extreme environments. Activities will continue to focus on injury prevention and recovery related to blunt, blast, and accelerative injuries; injury prevention and recovery related to musculoskeletal injury; fatigue, cognitive health and performance; human operator health and performance in complex systems; performance nutrition and weight balance; operational systems toxicology for environmental health hazards; protection and performance sustainment in extreme environments; and optimization of psychological health and resilience.					
FY 2023 Plans: Efforts will continue to focus on injury prevention and recovery related to blunt, blast, and accelerative injuries, as well as musculoskeletal injury; fatigue, cognitive health and performance; human operator health and performance in complex systems; performance nutrition and weight balance; operational systems toxicology for environmental health hazards; protection and performance sustainment in extreme environments; and optimization of psychological health and resilience.					
FY 2024 Base Plans: Efforts will continue to focus on military operation medicine applied research related to blunt, blast, and accelerative injuries, neurosensory injuries, as well as musculoskeletal injury; fatigue, cognitive health and performance; human operator health and performance in complex systems; performance nutrition and weight					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115DHA / *Applied Biomedical Technology*	**Project (Number/Name)** 372B / *GDF - ABT (Military Operational Medicine)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
balance; operational systems toxicology for environmental health hazards; protection and performance sustainment in extreme environments; and optimization of psychological health and resilience. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to inflation.					
Accomplishments/Planned Programs Subtotals	33.510	34.706	35.357	0.000	35.357

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115DHA / *Applied Biomedical Technology*	Project (Number/Name) 372C / *GDF - ABT (Medical Simulation & Training/Health Informatics)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
372C: *GDF - ABT (Medical Simulation & Training/Health Informatics)*	10.611	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

Conduct studies and experimentation to meet a military medical need. Efforts are directed toward expanding and applying knowledge to develop or improve devices, systems, processes or methods that support medical simulation to increase military medical personnel's knowledge, skills and abilities to deliver combat casualty care support to manage patient injury and illness and to conduct patient movement from point of injury through role of care four.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Medical Simulation Technologies (Formerly Medical Simulation Technologies & Training/Health Informatics)	0.000	0.000	0.000	0.000	0.000
Description: Studies, investigations, and non-system specific technology efforts focused on tissue models, technologies that simulate medical condition progress over time, technologies that simulate injury, technologies that replicate warfighter bio-physiology, and, technologies that simulate high-fidelity combat casualty care scenarios. Activities will continue to focus on tissue models that accurately simulate the feel, pliability, flexibility, and responsiveness of live tissue; technologies that simulate the degradation or worsening of a medical condition over time, as well as simulate the improvement of a medical condition over time; technologies that simulate injury, especially hemorrhage, fractures, and ocular damage; technologies that accurately reflect warfighter bodily characteristics and are rugged enough to simulate patient care and movement throughout the entire continuum of care; technologies that simulate combat scenarios to provide realistic environments; and technologies that simulate patient movement through the continuum of care.					
FY 2023 Plans: N/A					
FY 2024 Base Plans: N/A					
FY 2024 OCO Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115DHA / *Applied Biomedical Technology*	**Project (Number/Name)** 372C / *GDF - ABT (Medical Simulation & Training/Health Informatics)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115DHA / *Applied Biomedical Technology*	Project (Number/Name) 372D / *GDF - ABT (Clinical and Rehabilitation Medicine)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
372D: *GDF - ABT (Clinical and Rehabilitation Medicine)*	7.064	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

Clinical and rehabilitative medicine activities for products to transition to technology development in the areas of neuromusculoskeletal injury, pain management, regenerative medicine, and sensory systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Clinical and Rehabilitation Medicine	0.000	0.000	0.000	0.000	0.000
Description: Applied research in neuromusculoskeletal injuries to advance the diagnosis, treatment and rehabilitation outcomes after Service-related injuries continues to progress. Targets for therapies to alleviate acute, chronic, and battlefield pain. Continue to focus efforts on developing solutions to repair, reconstruct or regenerate tissue lost or damaged due to traumatic injury, as well as, optimize restoration and rehabilitation of hearing and balance. ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115DHA / *Applied Biomedical Technology*	**Project (Number/Name)** 372D / *GDF - ABT (Clinical and Rehabilitation Medicine)*

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115DHA / *Applied Biomedical Technology*	Project (Number/Name) 372E / *GDF - ABT (Military Infectious Disease)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
372E: *GDF - ABT (Military Infectious Disease)*	8.607	18.305	18.995	15.396	0.000	15.396	15.804	16.220	16.644	17.037	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project supports applied research toward the goal of preventing and treating infectious disease threats to eliminate their impacts on operational readiness. Applied biomedical research will focus on refining concepts and ideas into potential solutions for military problems and conducting analysis of alternatives to select the best potential solutions for further advanced technology development.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Military Infectious Diseases	18.305	18.995	15.396	0.000	15.396
Description: Multi-year studies in wound infections continue to address the ability to predict infection and better treatment options for infections with multidrug-resistant (MDR) bacterial pathogens. Novel and innovative therapeutics and delivery technologies for combat wounds. ***FY 2023 Plans:*** Will continue to focus on supporting wound infections and EID countermeasures development. ***FY 2024 Base Plans:*** Efforts will continue to focus on development of countermeasures against emerging infectious diseases threats and novel and innovative therapeutics and delivery technologies for wound infections. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease reflects planned maturations of technology to address emerging infectious diseases and wound infections.					
Accomplishments/Planned Programs Subtotals	18.305	18.995	15.396	0.000	15.396

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115DHA / *Applied Biomedical Technology*	**Project (Number/Name)** 372E / *GDF - ABT (Military Infectious Disease)*

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115DHA / *Applied Biomedical Technology*	Project (Number/Name) 372F / *GDF - ABT (Radiological Health Effects)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
372F: *GDF - ABT (Radiological Health Effects)*	0.966	0.881	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project supports applied research with the goal of pursuing the development of Food and Drug Administration (FDA) approved drugs, biologicals, and diagnostics (e.g., biodosimetry) to increase survival and decrease incapacity after acute radiation exposures.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Radiological Health Effects	0.881	0.000	0.000	0.000	0.000
Description: Research will support discovery of one to two Medical Countermeasures (MCMs) candidates to development toward Technology Readiness Level 6 (TRL-6) in support of transition to the advanced developer. In addition to identifying MCM candidates, this research will provide a fundamental understanding of the effects of radiation exposure. MCM identification will also be supported by the development and characterization on animal models to support FDA compliance, and also the identification and characterization of biomarkers to identify druggable targets and to support characterization of the mechanism of action of candidate MCMs. ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A					
Accomplishments/Planned Programs Subtotals	0.881	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115DHA / *Applied Biomedical Technology*	**Project (Number/Name)** 372F / *GDF - ABT (Radiological Health Effects)*

C. Other Program Funding Summary ($ in Millions)

Remarks

Radiological Health Effects has been moved under Combat Casualty Care.

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115DHA / *Applied Biomedical Technology*	Project (Number/Name) 372G / *GDF - ABT (Medical Technology)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
372G: *GDF - ABT (Medical Technology)*	0.000	0.000	83.464	85.380	0.000	85.380	93.479	94.908	94.925	96.812	Continuing	Continuing

A. Mission Description and Budget Item Justification

Applied Research described here focuses on the application of knowledge gained through basic research to refine drugs, vaccines, medical devices, diagnostics, medical practices/procedures, and other preventive measures essential to the protection and sustainment of Warfighter health. Research is conducted in the following principal areas: Combat Casualty Care, Military Operational Medicine, and Military Infectious Diseases.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF - ABT (Biomedical Technology)	0.000	83.464	85.380	0.000	85.380
Description: Programmatic transfer in accordance with the 711/737 US Army Medical Research and Development Command transfer to Defense Health Agency in support of Medical Systems, Advanced Technology & Development from Army PEs 0602787A, 0602115A and 0602148A. This project supports application of knowledge gained through basic research to refine drugs, vaccines, medical devices, diagnostics, medical practices/procedures, and other preventive measures essential to the protection and sustainment of Warfighter health. ***FY 2023 Plans:*** Efforts will focus on Applied Research in support of Medical Technology. ***FY 2024 Base Plans:*** Efforts will focus on Applied Research in support of Medical Technology related to Autonomous Care and Evacuation, Aviation Medicine, Brain Trauma, Burn Injury, Combined Injury, Endemic and Emerging Infectious Diseases, En Route Care, Health in Extreme Environments, Neuromusculoskeletal Injury Prevention & Treatment, Psychological Health Prevention & Treatment, Prolonged Care, Tactical Combat Casualty Care, Sustainment of Expeditory Medical Skills, Sustained Medical Readiness, Warfighter Protection & Survivability and Wound Management. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:***					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115DHA / *Applied Biomedical Technology*	**Project (Number/Name)** 372G / *GDF - ABT (Medical Technology)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Increase due to inflation.					
Accomplishments/Planned Programs Subtotals	0.000	83.464	85.380	0.000	85.380

	FY 2022	FY 2023
Congressional Add: Add input ***FY 2022 Accomplishments:*** N/A	0.000	-
Congressional Adds Subtotals	0.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency											Date: March 2023	
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0602787DHA *I Medical Technology (AFRRI)*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	4.101	1.417	1.468	1.497	0.000	1.497	1.528	1.557	1.588	1.619	Continuing	Continuing
241A: *Biodosimetry (USUHS)*	0.849	0.290	0.301	0.307	0.000	0.307	0.313	0.319	0.325	0.331	Continuing	Continuing
241B: *Internal Contamination (USUHS)*	0.447	0.153	0.158	0.161	0.000	0.161	0.164	0.167	0.170	0.173	Continuing	Continuing
241C: *Radiation Countermeasures (USUHS)*	2.805	0.974	1.009	1.029	0.000	1.029	1.051	1.071	1.093	1.115	Continuing	Continuing

A. Mission Description and Budget Item Justification

For the Uniformed Services University of the Health Sciences/Armed Forces Radiobiology Research Institute (USUHS/AFRRI), is a unique Department of Defense asset, responsible for preserving and protecting the health and performance of U.S. military personnel operating in potential radiologically contaminated multi-domain conventional or hybrid battle spaces and urban environments; through research, education, and operational training that advance understanding of the effects of ionizing radiation in line with the 21st century dynamic threat landscape and national security threats posed by non-state actors, hostile state actors, and near-peer adversaries, as well as providing rapidly deployable radiation medicine expertise in response to a radiological or nuclear event domestically or abroad.

The uniqueness of USUHS/AFRRI comes from operating and maintaining state-of-the-art radiation facilities and dosimetry systems to support military relevant radiobiology research. These facilities enable researchers to conduct a wide range of radiobiology experiments in order to investigate militarily-relevant scenarios, and better understand radiation effects and potential mitigation strategies. A team of scientist, physicists, engineers, operators and technicians use proven and traceable dosimetry systems (e.g., ionization chambers, radiochromic film, thermoluminescent dosimeters) and consensus protocols to characterize radiation fields. Due to these facilities our researchers are able to experiment with photons (gamma-rays) which are intended to simulate fallout environments and are delivered by two cobalt-60 facilities - the high-level cobalt facility (HLCF), and for lower (chronic) doses and dose rates, the low-level cobalt facility (LLCF). These type of radiation sources are used for acute and chronic studies of materials, biologic specimens, and small and large animals. The LLCF also provides to our scientist low-dose rate gamma rays to simulate chronic exposure to low absorbed doses. Therefore, it also supports research focused on late or delayed radiation effects in biological specimens.

USUHS/AFRRI researchers are also able to use mixed-radiation fields (photons and neutrons) which are available from USUHS/AFRRI's Training, Research, Isotopes, General Atomics (TRIGA) reactor. The reactor is operated in either steady-state or pulsed mode to simulate a wide range of prompt exposure scenarios on a nuclear battlefield. The USUHS/AFRRI's TRIGA is the only one dedicated to military radiobiology research. The reactor produces a controlled, self-sustaining fission chain reaction in the reactor core which, in addition to the fuel elements and control rods (containing boron carbide), which includes a neutron start-up source (americium/beryllium). It is suspended under 4.9 m of water within a pool (an effective radiation shield) in a carriage assembly that allows movement of the core between two exposure rooms for experimental work with large-animal or other studies. The advantages of such a movable reactor core are that the quantity and character of the radiation that reaches the exposure facilities can be controlled, and more than one exposure facility can be used during reactor operations.

Our state-of-the-art radiation facilities are also able to provide a wide range of photon and electron irradiations for partial- and whole-body geometries by using a linear accelerator (LINAC) and a small animal radiation research platform (SARRP) providing a range of radiation types, energies, field sizes and dose rates and is extensively

used to support standard cell configurations (i.e., 6-, 24- and 96-well plates), and targeted partial body irradiations of mice, minipigs, and nonhuman-primates (NHP) animal models. AFRRI's LINAC is used to produce, monitor, control and form photon or electron beams to the specified target. Whole-body irradiations are also possible depending on the animal size and desired dose rate. An Xstrahl SARRP facility is capable of operating at 220 kVp and 13 mA yielding a dose rate at the isocenter of approximately 2.6 Gy/min. Onboard portal camera and cone beam computed tomography (CT) imaging systems are used to ensure precise dose delivery. Lung- and gut-only irradiation protocols are approved and have been extensively used to support radiation countermeasure development in the mouse model. Other imaging support is provided by a Philips Brilliance CT big bore scanner. Some features of the scanner include an 85-cm bore size to accommodate larger research subjects, 60-cm true scan field of view and 16-slices per revolution. The above radiation sources and generators are used to support USUHS/AFRRI's current research focus areas which we will address in the following section.

Our scientific research goals includes maintaining a pool of highly qualified radiation biologists, and basic and applied research in identification and early development of measures to prevent, assess, and treat radiation injury. USUHS/AFRRI scientists conduct and publish research critical to the Department of Defense for force health protection and also contribute to the health and well-being of the population at large. USUHS/AFRRI research thrusts include development of diagnosis of radiation induced injury (biodosimetry), internalized radionuclides (internal contamination) and radiation countermeasures.

Research findings are mainly focused to advance the development and to produce the following: (1) To establish processes to permit rapid assessment of radiation exposed specimens using novel triage protocols; (2) To develop novel technologies to minimize the use of animal models in the study of radiation effects; (3) To investigate the overall radiation effect by internal contamination in the microbiome and anatomical tissue; (4) To find novel biomarkers, late effects and immunosuppression of radiation injury that can quantitate effects on combat performance decrements; (5) To identify novel therapeutic strategies that will support military operations within a nuclear or radiological environment minimizing ground troops short and long term adverse risk.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	1.439	1.468	1.497	0.000	1.497
Current President's Budget	1.417	1.468	1.497	0.000	1.497
Total Adjustments	-0.022	0.000	0.000	0.000	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.022	-			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602787DHA / *Medical Technology (AFRRI)*	Project (Number/Name) 241A / *Biodosimetry (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
241A: *Biodosimetry (USUHS)*	0.849	0.290	0.301	0.307	0.000	0.307	0.313	0.319	0.325	0.331	Continuing	Continuing

A. Mission Description and Budget Item Justification

For the Uniformed Services University of the Health Sciences/Armed Forces Radiobiology Research Institute (USUHS/AFRRI), the Biodosimetry program addresses clinical symptoms of radiation exposure, reach back reference capabilities. Biodosimetry is the only method to detect, assess and estimate radiation dose exposure and is critical for military missions and saving lives. AFRRI prepared an in-depth Business Case Analysis and is strategically poised to establish the DoD's Advanced Biodosimetry Network (DABN), meeting the objective of US Senate Report SR 114-63. The established network would be complemented with the Diagnostic Biodosimetry Laboratory that aligns with the DoD Clinical Laboratory Improvement Program (CLIP). CLIP describes requirements within the respective DoD's Active and Reserve Components and facilities under their supervision to include oversight, inspections, proficiency testing (PT), personnel standards, and training in laboratories performing testing on human specimens so that clinical decisions can be made [reference DoDI 6440.02]". The Biodosimetry laboratory also received clinical specimens from the Fukushima radiation accident in 2011, showcasing USUHS/AFRRI's capabilities to support the DoD in case of an accidental radiation exposure or radiological terrorism scenario.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Biodosimetry (USUHS)	0.290	0.301	0.307	0.000	0.307
Description: Biodosimetry (USUHS/AFRRI): Research findings are focused to advance the development and to produce the following: (1) To establish clinically certified processes to permit rapid assessment of radiation exposed specimens; (2) To access radiation exposure by developing and providing biological and biophysical dosimetry capabilities for acute, protracted, and prior radiation exposure; (3) To develop novel triage protocols for rapid assessment of radiation exposure; (4) To establish equipment triage automation to support the ability to manage mass-casualty radiation incidents around the globe. ***FY 2023 Plans:*** (1) To establish biodosimetry research effort to identify, optimize, and validate candidate multiparameter-based biodosimetry assays applicable for military applications in both field deployable as well as reach-back reference laboratory for triage and definitive radiation injury and dose assessment. (2) To investigate the use of a real-time PCR assay to quantify persistent radiation-induced DNA damage in human mitochondria DNA using long-cycle PCR methodology useful for biodosimetry applications. (3) To evaluate blood biomarkers to monitor radiation injury of radiation countermeasures. (4) To establish dual staining using two different fluorescence probes and to implement those in the automated cytokinesis blocked micronuclei assay.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787DHA / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241A / *Biodosimetry (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
(5) To investigate the use of immuno-assay fluorescent staining of human centromeric proteins to enhance accurate detection of radiation-induced dicentric chromosomes using both metaphase spreads and premature chromosome condensation assays. (6) To establish radiation dosimetry characterized mixed (neutron and gamma rays) field radiation fields and implement a laboratory intercomparison study with human blood samples to both establish necessary radiation calibration curves and blind test samples for radiation dose assessment. (7) To publish manuscripts and report on research findings. ***FY 2024 Base Plans:*** FY 2024 plans are to continue efforts as outlined in FY 2023. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Pricing adjustment for inflation.					
Accomplishments/Planned Programs Subtotals	0.290	0.301	0.307	0.000	0.307

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

The program element 0602787DHA for AFRRI in addition to the three program elements: 0601115HP, 0602115HP, and 0603115HP are coordinated and integrated into the portfolio management by the Joint Program Committee-7/ Radiation Health Effects Research Program (RHERP).

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602787DHA / *Medical Technology (AFRRI)*	Project (Number/Name) 241B / *Internal Contamination (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
241B: *Internal Contamination (USUHS)*	0.447	0.153	0.158	0.161	0.000	0.161	0.164	0.167	0.170	0.173	Continuing	Continuing

A. Mission Description and Budget Item Justification

Internal Contamination (USUHS): For the Uniformed Services University of the Health Sciences/Armed Forces Radiobiology Research Institute (USUHS/AFRRI), the stated goal of the Internal Contamination and Metal Toxicity Program is to determine whether the short- and long-term radiological and toxicological risks of inhaled, ingested, or embedded metals warrant changes in the fragment removal policies for military personnel and, in the case of internalized radiological hazards, to investigate treatment strategies to enhance elimination of these metals from the body. To that end, our current research priorities are to investigate the health effects of embedded military relevant metals with the aim of identifying a battery of biomarkers to indicate the potential of adverse health effects so that proper treatment paradigms, including surgical removal of the fragment, can be undertaken at the appropriate time. Results from this research will also inform military decision-makers as to whether the fragment removal policy for particular metals needs to be reassessed. In the event that these embedded fragments are radioactive, a thorough understanding of the biokinetics of the metal is essential. Treatment strategies to enhance the elimination of internalized radionuclides are also being investigated, with innovative approaches such as chemical molecularly imprinted polymers and dendrimer complexes at the forefront. Outside collaborations with private industry also provides opportunities to identify and screen novel countermeasures for internal contamination.

Research findings are focused to advance the development and to produce the following: (1) effective therapeutics to enhance the elimination of internalized radionuclides; (2) chemically synthesized imprinted polymers with high specific metal binding capabilities (3) novel chemical synthesis and in vitro systems to determine cytotoxicity issues in order to minimize the use of animal models in the study.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Internal Contamination (USUHS)	0.153	0.158	0.161	0.000	0.161
Description: Internal Contamination (USUHS): Radioactive material can enter the body by a variety of pathways including ingestion, inhalation, and wound contamination. While some internalized isotopes will be naturally eliminated from the body, many others are not. They remain immobile or are transported and deposited to other organs where they continually irradiate the surrounding tissue. This chronic internal radiation exposure can cause unrepairable cellular damage eventually leading to death. This Program uses innovative organic chemical synthesis (Molecularly Imprinted Polymer (MIPs), the novel development of gastrointestinal organ-on-chip technology and studies on the gut microbiome approaches to address this pressing health concern. First, MIPs have been shown to be highly-efficient and specific metal chelators. In order to expand the applicability of this approach, we synthesize chelation moieties onto dendritic polymer (dendrimers). Dendrimers are non-toxic, highly branched three-dimensional structures whose synthesis can be tightly controlled to yield a product of precise shape and size, thus, becoming highly-specific metal binders and can be tested as therapeutic agents					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787DHA / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241B / *Internal Contamination (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
for internalized radionuclides. Second, the development of organ-on-chip technology will lead to minimized use of animal models in the study of internal radiation effects. The model utilizes intestinal cell types and three dimensional architecture to mimic intestinal physiology and pathology. This novel 3D culture system will mimic the in vivo animal model and provide new stratagem to investigate the radiation induced gastrointestinal syndrome. This program also explores the internal radiation effects on the gut microbiome, understanding that alterations in the microbiome will share similar pathologic characteristics such as reduced bacterial diversity and the emergence of opportunistic pathogens that provide diagnostics and therapeutic targets. Determining the effect of ionizing radiation on altering the gut microbiome will reveal the effect on physiology, cell survival, inflammation, cytokine expression and metabolism. ***FY 2023 Plans:*** (1) The Department of Defense and Department of Veterans Affair recognized the need for a better understanding of the health effects of embedded metal fragments and enhanced health surveillance of personnel suffering from such injuries. In response, the Department of Defense Health Affairs issued a directive instructing surgeons to save any excised fragments for further analysis so that the metals could be identified. In addition, the directive compiled a list of “metals of concern” to enhance patient follow-up with the establishment of the Toxic Embedded Fragment Center at the Baltimore VA Medical Center in order to follow-up with service members. These developments led to further collaborations between USUHS/AFRRI and the Baltimore DVA, University of Maryland School of Medicine, U.S. FDA, and the University of Kentucky resulting in receiving support by a Congressionally Directed Medical Research Program (CDMRP) funded project. (2) Research team will validate signaling pathways by western blot and compare protein expression with age matched control minipig tissues. (3) Research team will perform enzyme-linked immunosorbent assay (ELISA) for protein markers for gut leakage/intestinal permeability to support disruption of gut microflora to confirm the data from microbiome analysis. (4) Team will continue with validation of small molecules for gut organ-on-chip model in murine model. (5) An ongoing study to determine the effect of aurin tricarboxylic acid (ATA), a potential countermeasure against internal contamination continues (NIH funding). (6) An effort to expand AFRRI/USUHS research on internal contamination to include toxic chemicals and metals inhaled in burn pits is planned. ***FY 2024 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787DHA / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241B / *Internal Contamination (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
FY 2024 plans continue efforts as outlined in FY 2023. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Pricing adjustment for inflation.					
Accomplishments/Planned Programs Subtotals	0.153	0.158	0.161	0.000	0.161

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

The program element 0602787DHA for AFRRI in addition to the three program elements: 0601115HP, 0602115HP, and 0603115HP are coordinated and integrated into the portfolio management by the Joint Program Committee-7/ Radiation Health Effects Research Program (RHERP).

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602787DHA / *Medical Technology (AFRRI)*	Project (Number/Name) 241C / *Radiation Countermeasures (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
241C: *Radiation Countermeasures (USUHS)*	2.805	0.974	1.009	1.029	0.000	1.029	1.051	1.071	1.093	1.115	Continuing	Continuing

A. Mission Description and Budget Item Justification

Radiation Countermeasures (USUHS/AFRRI): For the Uniformed Services University of the Health Sciences/Armed Forces Radiobiology Research Institute (USUHS/AFRRI), this program supports developmental, mission directed research to investigate new concepts and approaches that will lead to advancements in biomedical strategies for preventing and treating the health effects of human exposure to ionizing radiation as well as radiation combined with injuries (burns, wounds, hemorrhage, microbiome, gastrointestinal damage, neurobehavioral deficits, bone marrow damage), termed radiation combined injury (RCI). RCI's were observed at Hiroshima and Nagasaki, Japan, where 60-70% of victims received thermal burns concurrent with radiation injury. At the Chernobyl reactor meltdown, 10% of 237 victims exposed to radiation received thermal burns as well. In animal models of RCI including rat, guinea pig, dog, and swine, burns and wounds usually increase mortality after otherwise non-lethal radiation exposures. Consequences of RCI include acute myelosuppression, immune system inhibition, fluid imbalance, macro/microcirculation failure, massive cellular damage, and disruption of vital organ functions, which can lead to multiple organ dysfunction syndrome. There are different syndromes based on the time of manifestation in relation to radiation exposure; acute, delayed, late, and chronic syndromes. Acute radiation syndrome (ARS) is characterized by the differential response of the important organs to different doses of radiation. The ARS sub-syndromes include three major clinically-relevant pathologies; hematopoietic sub-syndrome (H-ARS), gastrointestinal sub-syndrome (GI-ARS), and neurovascular sub-syndrome (NV-ARS or CNS-ARS). Radiation countermeasures have been categorized as radioprotectors, radiomitigators, and therapeutics, based on the time of administration in relation to radiation exposure. The majority of countermeasures developed are for specific tissue injuries or specific syndromes. ARS is receiving the most attention, though other syndromes also need equal consideration. A new program and approach has been added to address non-lethal or low-dose radiation health effects that could compromise combat operations if left undiagnosed. Once potential health effects are identified, countermeasures for these non-lethal health effects will be addressed.

Currently, treatments for ARS are limited: only the H-ARS has viable therapeutic options and even those are limited; Neupogen, Neulasta, Leukine, and Nplate. USUHS/AFRRI researchers made significant contributions in the initial development of the first three agents. These H-ARS treatments are genetically engineered recombinant growth factors or cytokines that were developed for other indications and recently repurposed for H-ARS. All U.S. Food and Drug Administration (FDA) approved agents for H-ARS are radiomitigators. No radioprotector, either for H-ARS or GI-ARS has yet been approved for human use.

Due to the increasing risk of nuclear and radiological terrorist attacks or accidents has renewed interest in developing radiation medical countermeasures. Our Radiation Countermeasures goals range from exploration of biological processes likely to form the basis of technological solutions, to initial feasibility studies of promising solutions. Program objectives focus on preventing and 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/or combination of FDA approved treatments 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.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787DHA / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241C / *Radiation Countermeasures (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Radiation Countermeasures (USUHS)	0.974	1.009	1.029	0.000	1.029
Description: For the Uniformed Services University of the Health Sciences/Armed Forces Radiobiology Research Institute (USUHS/AFRRI), the Radiation Countermeasures program supports developmental, mission directed research to investigate new concepts and approaches that will lead to advancements in biomedical strategies for preventing and treating the health effects of human exposure to ionizing radiation as well as radiation combined with injuries (burns, wounds, hemorrhage, microbiome, gastrointestinal damage, neurobehavioral deficits, bone marrow damage), termed radiation combined injury. Research findings are focused to advance the understanding and to produce the following: (1) To identify new therapeutic candidates that show promising advancement for further development; (2) To develop novel technologies to minimize the use of animal models in the study of radiation countermeasure effects; (3) To investigate the overall radiation effect by countermeasures in the microbiome and anatomical tissue; (4) To find novel biomarkers, late effects and immunosuppression of radiation injury that can quantitate effects on combat performance decrements; (5) To identify novel therapeutic strategies that will support military operations within a nuclear or radiological environment minimizing ground troops short and long term adverse risk. ***FY 2023 Plans:*** (1) To complete methylome and proteome studies and identify early epigenomic steps post-radiation caused by LDR/LDR neutron exposure to murine stem cells populations as potential low dose exposure markers using multiple analytical bioinformatics programs. (2) To down-select potential gut-organ-on-chip small molecule and test for efficacy in murine model. (3) To screen one potential prophylactic countermeasure in the partial body irradiation model with 2.5% sparing of bone marrow. (4) To perform neutron/gamma radiation with single 3D cell culture. (5) To perform neutron/gamma radiations with endothelium/immune cell 3D cultures. (6) To determine DRF for promising candidates. (7) To determine hematological end points to assess recovery from H-ARS. (8) To analyze specimens of the jejunum after lethal irradiation in mice treated with FDA-approved therapeutics. (9) To identify other animal models where various anatomical sites (e.g. intestinal, oral, cutaneous, pulmonary, and urinary, etc) can be interrogated for microbiome alterations. (10) To test IL-18BP efficacy using the in vitro Caco2 IL-18 receptor knockout cell line and 3D cell culture. (11) To optimize the gastro-intestinal organ-on-chip model using intestinal cell lines to mimic the 3D architecture of the intestinal physiology.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787DHA / *Medical Technology (AF RRI)*	**Project (Number/Name)** 241C / *Radiation Countermeasures (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
(12) To define biomarkers of neurobehavioral deficits following low-dose exposure. (13) To identify circulating miRNAs at different time points following low-dose irradiation. (14) To determine the relationship between circulating miRNAs and neurobehavioral deficits. (15) To identify miRNA in exosomes from radiation exposed human primary cell lines that target CXCR4 receptor in recipient cells that facilitate proliferation or neutrophil progenitors using high-throughput methods. (16) To determine the effect of exosome-packed selected miRNA on the release of neutrophils from BM cells using in vitro BM model, and their interactions with G-CSF and GM-CSF, with gamma radiation. (17) To identify additional health effects from low dose mixed field radiation. (18) To identify additional health effects from chronic low dose gamma “Fallout” type radiation. (19) To establish a partial body irradiation with 5% BM protection (PBI/BM5) mouse model, and study the radiation-induced multiple organ injuries including gastrointestinal (GI), Lung, heart, brain and kidney using the PBI/BM5 model. (20) To evaluate the mitigative effects of IL-18BP on survival of radiation-induced GI injury using PBI/BM5 mouse model. (21) To identify the effects of intestinal microbiota and their metabolites on radiation-induced injury in a mouse model. (22) To test if gut-microbiome-derived L-histidine treatment after irradiation combined with wound injury increases survival and organ repair. (23) To test if gut-microbiome-derived L-histidine treatment before or after irradiation combined with wound injury changes ATP production and mitochondrial remodeling. ***FY 2024 Base Plans:*** FY 2024 plans continue efforts as outlined in FY 2023. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Pricing adjustment for inflation.					
Accomplishments/Planned Programs Subtotals	0.974	1.009	1.029	0.000	1.029

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787DHA / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241C / *Radiation Countermeasures (USUHS)*

C. Other Program Funding Summary ($ in Millions)

Remarks

The program element 0602787DHA for AFRRI in addition to the three program elements: 0601115HP, 0602115HP, and 0603115HP are coordinated and integrated into the portfolio management by the Joint Program Committee-7/ Radiation Health Effects Research Program (RHERP).

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0603002DHA *I Medical Advanced Technology (AFRRI)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	1.022	0.351	0.366	0.373	0.000	0.373	0.380	0.388	0.396	0.404	Continuing	Continuing
242A: *Biodosimetry (USUHS)*	0.611	0.209	0.218	0.222	0.000	0.222	0.226	0.231	0.260	0.265	Continuing	Continuing
242B: *Radiation Countermeasures (USUHS)*	0.411	0.142	0.148	0.151	0.000	0.151	0.154	0.157	0.136	0.139	Continuing	Continuing

A. Mission Description and Budget Item Justification

For the Uniformed Services University of the Health Sciences/Armed Forces Radiobiology Research Institute (USUHS/AFRRI), is a unique Department of Defense asset, responsible for preserving and protecting the health and performance of U.S. military personnel operating in potential radiologically contaminated multi-domain conventional or hybrid battle spaces and urban environments; through research, education, and operational training that advance understanding of the effects of ionizing radiation in line with the 21st century dynamic threat landscape and national security threats posed by non-state actors, hostile state actors, and near-peer adversaries, as well as providing rapidly deployable radiation medicine expertise in response to a radiological or nuclear event domestically or abroad.

The uniqueness of USUHS/AFRRI comes from operating and maintaining state-of-the-art radiation facilities and dosimetry systems to support military relevant radiobiology research. These facilities enable researchers to conduct a wide range of radiobiology experiments in order to investigate militarily-relevant scenarios, and better understand radiation effects and potential mitigation strategies. A team of scientist, physicists, engineers, operators and technicians use proven and traceable dosimetry systems (e.g., ionization chambers, radiochromic film, thermoluminescent dosimeters) and consensus protocols to characterize radiation fields. Due to these facilities our researchers are able to experiment with photons (gamma-rays) which are intended to simulate fallout environments and are delivered by two cobalt-60 facilities - the high-level cobalt facility (HLCF), and for lower (chronic) doses and dose rates, the low-level cobalt facility (LLCF). These type of radiation sources are used for acute and chronic studies of materials, biologic specimens, and small and large animals. The LLCF also provides to our scientist low-dose rate gamma rays to simulate chronic exposure to low absorbed doses. Therefore, it also supports research focused on late or delayed radiation effects in biological specimens.

USUHS/AFRRI researchers are also able to use mixed-radiation fields (photons and neutrons) which are available from USUHS/AFRRI's Training, Research, Isotopes, General Atomics (TRIGA) reactor. The reactor is operated in either steady-state or pulsed mode to simulate a wide range of prompt exposure scenarios on a nuclear battlefield. The USUHS/AFRRI's TRIGA is the only one dedicated to military radiobiology research. The reactor produces a controlled, self-sustaining fission chain reaction in the reactor core which, in addition to the fuel elements and control rods (containing boron carbide), which includes a neutron start-up source (americium/beryllium). It is suspended under 4.9 m of water within a pool (an effective radiation shield) in a carriage assembly that allows movement of the core between two exposure rooms for experimental work with large-animal or other studies. The advantages of such a movable reactor core are that the quantity and character of the radiation that reaches the exposure facilities can be controlled, and more than one exposure facility can be used during reactor operations.

Our state-of-the-art radiation facilities are also able to provide a wide range of photon and electron irradiations for partial- and whole-body geometries by using a linear accelerator (LINAC) and a small animal radiation research platform (SARRP) providing a range of radiation types, energies, field sizes and dose rates and is extensively used to support standard cell configurations (i.e., 6-, 24- and 96-well plates), and targeted partial body irradiations of mice, minipigs, and nonhuman-primates (NHP) animal models. AFRRI's LINAC is used to produce, monitor, control and form photon or electron beams to the specified target. Whole-body irradiations are also possible

depending on the animal size and desired dose rate. An Xstrahl SARRP facility is capable of operating at 220 kVp and 13 mA yielding a dose rate at the isocenter of approximately 2.6 Gy/min. Onboard portal camera and cone beam computed tomography (CT) imaging systems are used to ensure precise dose delivery. Lung- and gut-only irradiation protocols are approved and have been extensively used to support radiation countermeasure development in the mouse model. Other imaging support is provided by a Philips Brilliance CT big bore scanner. Some features of the scanner include an 85-cm bore size to accommodate larger research subjects, 60-cm true scan field of view and 16-slices per revolution. The above radiation sources and generators are used to support USUHS/AFRRI's current research focus areas which we will address in the following section.

Our scientific research goals includes maintaining a pool of highly qualified radiation biologists, and basic and applied research in identification and early development of measures to prevent, assess, and treat radiation injury. USUHS/AFRRI scientists conduct and publish research critical to the Department of Defense for force heath protection and also contribute to the health and well-being of the population at large. USUHS/AFRRI research thrusts include development of diagnosis of radiation induced injury (biodosimetry), internalized radionuclides (internal contamination) and radiation countermeasures.

The program 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. Research findings are mainly focused to advance the development and to produce the following: (1) To establish processes to permit rapid assessment of radiation exposed specimens using novel triage protocols; (2) To developed novel technologies using animal models in the study of radiation effects; (3) To investigate the overall radiation effect by internal contamination in the microbiome and anatomical tissue; (4) To find novel biomarkers, late effects and immunosuppression of radiation injury that can quantitate effects on combat performance decrements; (5) To identify novel therapeutic strategies that will support military operations within a nuclear or radiological environment minimizing ground troops short and long term adverse risk.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.359	0.366	0.373	0.000	0.373
Current President's Budget	0.351	0.366	0.373	0.000	0.373
Total Adjustments	-0.008	0.000	0.000	0.000	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.008	-			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603002DHA / *Medical Advanced Technology (AFRRI)*	Project (Number/Name) 242A / *Biodosimetry (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
242A: *Biodosimetry (USUHS)*	0.611	0.209	0.218	0.222	0.000	0.222	0.226	0.231	0.260	0.265	Continuing	Continuing

A. Mission Description and Budget Item Justification

For the Uniformed Services University of the Health Sciences/Armed Forces Radiobiology Research Institute (USUHS/AFRRI), the Biodosimetry program addresses clinical symptoms of radiation exposure, reach back reference capabilities. Biodosimetry is the only method to detect, assess and estimate radiation dose exposure and is critical for military missions and saving lives. AFRRI prepared an in-depth Business Case Analysis and is strategically poised to establish the DoD's Advanced Biodosimetry Network (DABN), meeting the objective of US Senate Report SR 114-63. The established network would be complemented with the Diagnostic Biodosimetry Laboratory that aligns with the DoD Clinical Laboratory Improvement Program (CLIP). CLIP describes requirements within the respective DoD's Active and Reserve Components and facilities under their supervision to include oversight, inspections, proficiency testing (PT), personnel standards, and training in laboratories performing testing on human specimens so that clinical decisions can be made [reference DoDI 6440.02]". The Biodosimetry laboratory also received clinical specimens from the Fukushima radiation accident in 2011, showcasing USUHS/AFRRI's capabilities to support the DoD in case of an accidental radiation exposure or radiological terrorism scenario.

The Biodosimetry program 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. Research findings are focused to advance the development and production of the following: (1) To establish clinically certified processes to permit rapid assessment of radiation exposed specimens; (2) To assess radiation exposure by developing and providing biological and biophysical dosimetry capabilities for acute, protracted, and prior radiation exposure; (3) To develop novel triage protocols for rapid assessment of radiation exposure; (4) To establish equipment triage automation to support the ability to manage mass-casualty radiation incidents around the globe.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Biodosimetry (USUHS/AFRRI)	0.209	0.218	0.222	0.000	0.222
Description: The Biodosimetry program 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. ***FY 2023 Plans:*** (1) To continue providing Department of Defense radiobiology – biodosimetry expert reach back support. (2) To participate in CBRNE/WMD NATO and military operations exercises. (3) To sustain laboratory clinical accreditation and competency in the cytogenetic biodosimetry service capability. (4) To implement quality control and quality assurance processes in order to preserve and ensure specimen testing and integrity supporting a transition of a research to clinical laboratory activities. (5) To sustain biodosimetry tools and biodosimetry expertise to support military relevant requirements.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603002DHA / *Medical Advanced Technology (AFRRI)*	**Project (Number/Name)** 242A / *Biodosimetry (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
(6) To establish processes to permit processing assessment of radiation exposure from specimens by testing the novel cytokinesis-block micronucleus assay (CBMN). The CBMN is a comprehensive system for measuring DNA damage, cytostasis and cytotoxicity. DNA damage events are scored specifically in once-divided binucleated (BN) cells and include (a) micronuclei (MNi), a biomarker of chromosome breakage and/or whole chromosome loss, (b) nucleoplasmic bridges (NPBs), a biomarker of DNA misrepair and/or telomere end-fusions, and (c) nuclear buds (NBUDs), a biomarker of elimination of amplified DNA and/or DNA repair complexes. Cytostatic effects are measured via the proportion of mono-, bi- and multinucleated cells and cytotoxicity via necrotic and/or apoptotic cell ratios. Further information regarding mechanisms leading to MNi, NPBs and NBUDs formation is obtained using centromere and/or telomere probes. The assay has the probability to be applied successfully for biomonitoring of in vivo genotoxic radiation exposure, in vitro radiation genotoxicity testing and in diverse research fields such as nutrigenomics and pharmacogenomics as well as a predictor of normal tissue and tumor radiation sensitivity and cancer risk. (7) To test the CBMN assay for triage automation and multivariable linear regression analysis to compare with already proven and globally accepted assays. (8) To establish a surge request procedure for cytogenetic analysis by developing sex and age-dependent CBMN dose-response calibrations curves and validate specimens cryopreservation protocols for delayed analysis using the metaphase-spread chromosome aberrations (i.e., DCA, PCC) assays. (9) To support the establishment of the Department of Defense Clinical Laboratory Improvement Program (CLIP) / Clinical Laboratory Improvement Amendments (CLIA) Clinical Biodosimetry laboratory with automated clinical specimen testing to manage mass-casualty radiation incidents around the globe. (10) To publish manuscripts and reports on research findings. ***FY 2024 Base Plans:*** FY 2024 plans are to continue efforts as outlined in FY 2023. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Pricing adjustment for inflation.					
Accomplishments/Planned Programs Subtotals	0.209	0.218	0.222	0.000	0.222

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603002DHA / *Medical Advanced Technology (AFRRI)*	**Project (Number/Name)** 242A / *Biodosimetry (USUHS)*

C. Other Program Funding Summary ($ in Millions)

Remarks

The program element 0602787DHA for AFRRI in addition to the three program elements: 0601115HP, 0602115HP, and 0603115HP are coordinated and integrated into the portfolio management by the Joint Program Committee-7/ Radiation Health Effects Research Program (RHERP).

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603002DHA / *Medical Advanced Technology (AFRRI)*	Project (Number/Name) 242B / *Radiation Countermeasures (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
242B: *Radiation Countermeasures (USUHS)*	0.411	0.142	0.148	0.151	0.000	0.151	0.154	0.157	0.136	0.139	Continuing	Continuing

A. Mission Description and Budget Item Justification

Radiation Countermeasures (USUHS/AFRRI): For the Uniformed Services University of the Health Sciences/Armed Forces Radiobiology Research Institute (USUHS/AFRRI), this program supports developmental, mission directed research to investigate new concepts and approaches that will lead to advancements in biomedical strategies for preventing and treating the health effects of human exposure to ionizing radiation as well as radiation combined with injuries (burns, wounds, hemorrhage, microbiome, gastrointestinal damage, neurobehavioral deficits, bone marrow damage), termed radiation combined injury (RCI). RCI's were observed at Hiroshima and Nagasaki, Japan, where 60-70% of victims received thermal burns concurrent with radiation injury. At the Chernobyl reactor meltdown, 10% of 237 victims exposed to radiation received thermal burns as well. In animal models of RCI including rat, guinea pig, dog, and swine, burns and wounds usually increase mortality after otherwise non-lethal radiation exposures. Consequences of RCI include acute myelosuppression, immune system inhibition, fluid imbalance, macro/microcirculation failure, massive cellular damage, and disruption of vital organ functions, which can lead to multiple organ dysfunction syndrome. There are different syndromes based on the time of manifestation in relation to radiation exposure; acute, delayed, late, and chronic syndromes. Acute radiation syndrome (ARS) is characterized by the differential response of the important organs to different doses of radiation. The ARS sub-syndromes include three major clinically-relevant pathologies; hematopoietic sub-syndrome (H-ARS), gastrointestinal sub-syndrome (GI-ARS), and neurovascular sub-syndrome (NV-ARS). Radiation countermeasures have been categorized as radioprotectors, radiomitigators, and therapeutics, based on the time of administration in relation to radiation exposure. The majority of countermeasures developed are for specific tissue injuries or specific syndromes. ARS is receiving the most attention, though other syndromes also need equal consideration.

Currently, treatments for ARS are limited; only the H-ARS has viable therapeutic options and even those are limited; Neupogen, Neulasta, Leukine, and Nplate. USUHS/AFRRI researchers made significant contributions in the initial development of the first three agents. These H-ARS treatments are genetically engineered recombinant growth factors or cytokines that were developed for other indication, were in clinic for long time, and recently repurposed for H-ARS. All U.S. Food and Drug Administration (FDA) approved agents for H-ARS are radiomitigators. No radioprotector, either for H-ARS or GI-ARS has yet been approved for human use.

Due to the increasing risk of nuclear and radiological terrorist attacks or accidents has renewed interest in developing radiation medical countermeasures. Our Radiation Countermeasures goals 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 preventing and 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/or combination of FDA approved treatments 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.

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. Research findings are focused to advance the understanding and to produce the following: (1) To identify new therapeutics candidates that show promising advancement for further development; (2) To develop novel technologies to minimize the use of animal models in the study

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603002DHA / *Medical Advanced Technology (AFRRI)*	**Project (Number/Name)** 242B / *Radiation Countermeasures (USUHS)*

of radiation countermeasure effects; (3) To investigate the overall radiation effect by countermeasures in various samples derived from animals for microbiome and anatomical tissue; (4) To find novel biomarkers, late effects and immunosuppression of radiation injury that can quantitate effects on combat performance decrements; (5) To identify novel therapeutic strategies that will support military operations within a nuclear or radiological environment minimizing ground troops short and long term adverse risk.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Radiation Countermeasures (USUHS)	0.142	0.148	0.151	0.000	0.151
Description: Radiation Countermeasures (USUHS/AFRRI): For the Uniformed Services University of the Health Sciences/Armed Forces Radiobiology Research Institute (USUHS/AFRRI), this program supports developmental, mission directed research to investigate new concepts and approaches that will lead to advancements in biomedical strategies for preventing and treating the health effects of human exposure to ionizing radiation as well as radiation combined with injuries (burns, wounds, hemorrhage, microbiome, gastrointestinal damage, neurobehavioral deficits, bone marrow damage), termed radiation combined injury (RCI). 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. ***FY 2023 Plans:*** (1) To continue ongoing studies using the cutaneous radiation injury in minipigs to analyze the skin microbiome before and after creation of clinically-relevant radiation lesions. (2) To perform transcriptomic studies with tissues of NHP exposed to radiation and treated with PEGylated interlukin-11. (3) To perform proteomic and metabolomic studies with serum samples of NHP exposed to radiation and treated with BBT-059. (4) To optimize and validate a proteomic protocol for validation of radiation biomarkers for countermeasure efficacy. (5) To study the dysfunctional signaling pathway resulting from countermeasure testing in NHP models. (6) Conduct microbiome studies with fecal samples of NHPs exposed to total-body (gamma-rays) and partial body (X-rays) radiation. (7) Conducted miRNA study using serum samples of irradiated NHPs. ***FY 2024 Base Plans:*** FY 2024 plans are to continue efforts as outlined in FY 2023. ***FY 2024 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603002DHA / *Medical Advanced Technology (AFRRI)*	**Project (Number/Name)** 242B / *Radiation Countermeasures (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Pricing adjustment for inflation.					
Accomplishments/Planned Programs Subtotals	0.142	0.148	0.151	0.000	0.151

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

The program element 0602787DHA for AFRRI in addition to the three program elements: 0601115HP, 0602115HP, and 0603115HP are coordinated and integrated into the portfolio management by the Joint Program Committee-7/ Radiation Health Effects Research Program (RHERP).

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency											Date: March 2023	
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0603115DHA *I Medical Technology Development*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	5,308.054	2,020.169	2,307.376	326.667	0.000	326.667	328.445	333.013	338.431	345.201	Continuing	Continuing
300A: *CSI - Congressional Special Interests*	4,594.732	1,787.181	1,986.880	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-
238C: *Air & Space Austere Environment Patient Care and Transport (AF)*	27.575	12.212	12.866	13.122	0.000	13.122	13.386	13.654	13.928	14.207	Continuing	Continuing
284B: *Air & Space Physiology, Medicine and Human Performance (AF)*	23.351	10.716	11.471	11.700	0.000	11.700	11.933	12.173	12.416	12.663	Continuing	Continuing
285A: *Operational Medicine Research & Development (Budgeted) (AF)*	9.828	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
307B: *Air & Space Force Health Protection (AF)*	26.893	11.044	11.630	11.862	0.000	11.862	12.099	12.341	12.587	12.840	Continuing	Continuing
308B: *Expeditionary Medicine Research & Development (Budgeted) (AF)*	12.241	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
309A: *Regenerative Medicine (USUHS)*	28.665	10.271	10.833	11.051	0.000	11.051	11.271	11.496	11.724	11.958	Continuing	Continuing
373: *GDF - Medical Technology Development*	207.753	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
373A: *GDF - MTD (Combat Casualty Care)*	11.168	15.357	24.519	26.943	0.000	26.943	27.950	28.871	29.810	30.406	Continuing	Continuing
373B: *GDF - MTD (Military Operational Medicine)*	23.255	23.588	34.150	22.426	0.000	22.426	23.152	23.815	24.492	25.182	Continuing	Continuing
373C: *GDF - MTD (Medical Simulation & Training/Health Informatics)*	12.613	12.729	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
373D: *GDF - MTD (Clinical and Rehabilitation Medicine)*	13.040	14.619	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency										Date: March 2023		
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0603115DHA *I Medical Technology Development*							
373E: *GDF - MTD (Military Infectious Disease)*	6.409	6.470	12.886	13.817	0.000	13.817	13.747	13.659	13.570	13.841	Continuing	Continuing
373F: *GDF - MTD (Radiological Health Effects)*	0.501	0.523	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
373G: *GDF - MTD (Military Medical Photonics)*	10.000	9.953	10.404	10.612	0.000	10.612	10.824	11.040	11.261	11.486	Continuing	Continuing
373H: *GDF - MTD (Medical Advanced Technology)*	0.000	0.000	68.016	68.823	0.000	68.823	65.066	64.322	64.330	65.617	Continuing	Continuing
378B: *CoE-Breast Cancer Center of Excellence (USUHS))*	31.076	10.534	11.116	11.339	0.000	11.339	11.566	11.797	12.033	12.274	Continuing	Continuing
379B: *CoE-Gynecological Cancer Center of Excellence (USUHS)*	27.167	9.201	9.719	9.913	0.000	9.913	10.111	10.313	10.519	10.728	Continuing	Continuing
381: *CoE - Integrative Cardiac Health Care (USUHS)*	7.609	1.684	1.809	1.875	0.000	1.875	1.943	1.982	2.022	2.062	Continuing	Continuing
382B: *CoE-Pain Center of Excellence (USUHS)*	8.523	1.965	2.084	2.156	0.000	2.156	2.230	2.277	2.327	2.374	Continuing	Continuing
383A: *CoE-Prostate Cancer Center of Excellence (USUHS)*	24.806	8.417	8.870	9.047	0.000	9.047	9.228	9.413	9.600	9.792	Continuing	Continuing
478: *Applied Proteogenomics Organizational Learning and Outcomes (APOLLO) Consortium (USUHS)*	51.443	18.083	19.058	29.480	0.000	29.480	29.870	30.267	30.672	31.085	Continuing	Continuing
479: *Framingham Longitudinal Study (USUHS)*	14.586	4.765	5.018	5.118	0.000	5.118	5.220	5.324	5.430	5.539	Continuing	Continuing
499: *MHS Financial System Acquisition (DHA)*	37.702	5.792	6.051	6.092	0.000	6.092	6.143	6.266	6.388	6.516	Continuing	Continuing
506: *Health Research for Improved Medical Readiness and Healthcare Delivery (USUHS)*	23.045	11.022	11.631	11.883	0.000	11.883	12.141	12.384	12.632	12.885	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency										Date: March 2023		
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0603115DHA *I Medical Technology Development*							
507: *Brain Injury and Disease Prevention, Treatment and Research (USUHS)*	26.900	13.378	14.132	14.415	0.000	14.415	14.703	14.997	15.297	15.603	Continuing	Continuing
508: *Psychological Health and Resilience (USUHS)*	14.140	7.042	7.428	7.577	0.000	7.577	7.729	7.884	8.042	8.203	Continuing	Continuing
509: *Innovative Technologies for Improved Medical Diagnoses, Rehabilitation and Warfighter Readiness (USUHS)*	33.033	13.623	14.505	14.916	0.000	14.916	15.333	15.638	15.951	16.272	Continuing	Continuing
511: *Cancer Moonshot Initiatives*	0.000	0.000	12.300	12.500	0.000	12.500	12.800	13.100	13.400	13.668	Continuing	Continuing

A. Mission Description and Budget Item Justification

Guidance for Development of the Force - Medical Technology Development: This program element (PE) provides funding 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 areas of interest to the Secretary of Defense regarding Wounded Warriors, capabilities identified through the Joint Capabilities Integration and Development System, and sustainment of Department of Defense and multi-agency priority investments in science, technology, research, and development. Medical research, development, test, and evaluation priorities for the Defense Health Program (DHP) are guided by, and will support, the National Defense Strategy, the National Research Action Plan for Improving Access to Mental Health Services for Veterans, Service Members, and Military Families, and the National Biodefense Strategy.
Program development and execution 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 and the Department of Health and Human Services. As research efforts mature, the most promising will transition to advanced concept development funding, PE 0604110. For knowledge products, successful findings will transition into clinical practice guidelines.

Three Centers of Excellence (CoEs) receive medical technology development funds. Management of the Breast and Gynecological Cancer CoEs transfer from the Army to the Uniformed Services University beginning in FY 2017. The Cardiac Health CoE provides evidence-based personalized patient engagement approaches for comprehensive cardiac event prevention through education, outcomes research and technology tools, as well as molecular research to detect cardiovascular disease at an early stage to ultimately discover a signature for cardiovascular 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.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*

For the Air Force Medical Service (AFMS), medical research and development programs are divided into five primary thrust areas: En-Route 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. Therefore, the En-Route care thrust area studies include investigation on the impact of transport on patient and providers (including cabin altitude, noise, vibration, and environmental issues affecting physiology on the aircraft), patient safety factors during transport, medical technologies for use during transport, and research to support education and training with simulation for En-Route care providers. The Human Performance thrust area focuses on optimizing airmen physical and psychological performance, assessing the physical and cognitive demands on the operator (pilot/aircrew), facilitating a safe aviation environment through technology and equipment assessment, and improving/ sustaining airmen performance through training. Medical development and biomedical technology investments in FHP seek to deliver an improved FHP capability across the full spectrum of operations with research that prevents injury/ illness through improved identification and control of health risks. Under FHP, sub-project areas include Occupational Hazard Exposure (Includes Flight Hazards and Integrated Risk), Targeted Risk Identification, Mitigation and Treatment (Formerly Pathogen ID and Novel Therapeutics and includes Big Data), FHP Technologies Development and Assessment (Assay and disease detection), and Health Surveillance, Infection, Injury & Immunity. FHP also includes Innovations and Personalized Medicine. 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 Prostate Cancer Center of Excellence (CoE), the Center for Neuroscience and Regenerative Medicine (CNRM), the Pain CoE, the Breast Cancer CoE, and the Gynecological Cancer CoE. The Prostate CoE, formerly a CSI, was chartered in 1992 to conduct basic, clinical, and translational research programs to combat diseases of the prostate. The Center'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 who participate in clinical trials. CNRM brings together the expertise of clinicians and scientists across disciplines to catalyze innovative approaches to 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. Beginning in FY17, the Breast Cancer CoE funding line and the Gynecological Cancer CoE funding line are transferred from the Army to USUHS.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0603115DHA *I Medical Technology Development*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	235.197	320.496	326.667	0.000	326.667
Current President's Budget	2,020.169	2,307.376	326.667	0.000	326.667
Total Adjustments	1,784.972	1,986.880	0.000	0.000	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	1,842.980	1,986.880			
• Congressional Directed Transfers	-	-			
• Reprogrammings	5.001	-			
• SBIR/STTR Transfer	-63.009	-			

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 300A: *CSI - Congressional Special Interests*		
Congressional Add: *245A - Amyotrophic Lateral Sclerosis (ALS) Research*	38.665	40.000
Congressional Add: *248 - Program increase - Armed Forces Institute of Regenerative Medicine III*	-	10.000
Congressional Add: *293A - Autism Research*	14.499	15.000
Congressional Add: *296A - Bone Marrow Failure Disease Research*	7.250	7.500
Congressional Add: *310A - Peer-Reviewed Ovarian Cancer Research*	43.499	45.000
Congressional Add: *328A - Peer- Reviewed Multiple Sclerosis Research*	19.333	20.000
Congressional Add: *335A - Peer-Reviewed Cancer Research*	125.664	130.000
Congressional Add: *336A - Peer-Reviewed Lung Cancer Research*	19.333	25.000
Congressional Add: *337A - Peer-Reviewed Orthopaedic Research*	28.999	30.000
Congressional Add: *338A - Peer-Reviewed Spinal Cord Research*	38.665	40.000
Congressional Add: *339A - Peer-Reviewed Vision Research*	19.333	20.000
Congressional Add: *352A - Traumatic Brain Injury/Psychological Health Research*	169.163	175.000
Congressional Add: *380A - Peer-Reviewed Breast Cancer Research*	144.997	150.000
Congressional Add: *390A - Peer-Reviewed Prostate Cancer Research*	106.328	110.000
Congressional Add: *396A - Research in Alcohol and Substance Use Disorders*	3.867	4.000
Congressional Add: *400A - Peer-Reviewed Medical Research*	357.660	370.000
Congressional Add: *417A - Peer-Reviewed Alzheimer Research*	14.499	15.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0603115DHA *I Medical Technology Development*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Congressional Add: *439A - Joint Warfighter Medical Research*	23.199	9.000
Congressional Add: *452A - Peer-Reviewed Reconstructive Transplant Research*	11.600	12.000
Congressional Add: *454A - Orthotics and Prosthetics Outcomes Research*	19.333	15.000
Congressional Add: *456A - HIV/AIDS Program*	17.524	20.000
Congressional Add: *459A - Peer-Reviewed Epilepsy Research*	11.600	12.000
Congressional Add: *463A – Program Increase: Restore Core Research Funding Reduction (GDF)*	211.229	212.380
Congressional Add: *495 - Peer-Reviewed Tick-Borne Disease Research*	6.766	7.000
Congressional Add: *496 -Trauma Clinical Research Program*	9.635	5.000
Congressional Add: *501 - Peer-Reviewed Hearing Restoration Research (Army)*	9.666	5.000
Congressional Add: *502 - CSI - Peer-Reviewed Kidney Cancer Research (Army)*	48.331	50.000
Congressional Add: *503 - CSI - Peer-Reviewed Lupus Research (Army)*	9.666	10.000
Congressional Add: *540A - Global HIV/AIDS Prevention (Navy)*	10.000	12.000
Congressional Add: *660A - Tuberous Sclerosis Complex (TSC)*	7.733	8.000
Congressional Add: *790A - Peer-Reviewed Duchenne Muscular Dystrophy*	9.666	10.000
Congressional Add: *512 - Peer-Reviewed Melanoma Research*	38.665	40.000
Congressional Add: *513 - Chronic Pain Management*	14.499	15.000
Congressional Add: *514 - Combat Readiness Medical Research*	9.666	5.000
Congressional Add: *515 - Peer-Reviewed Pancreatic Cancer Research*	14.499	15.000
Congressional Add: *516 - Peer-Reviewed Rare Cancers Research*	16.916	17.500
Congressional Add: *518 - Peer-Reviewed Toxic Exposures Research*	28.999	30.000
Congressional Add: *522 - Program Increase - USUHS military surgical teams simulation technology*	4.836	-
Congressional Add: *523 - Program Increase - USUHS multi-domain operations*	33.799	30.000
Congressional Add: *300A - Congressional Add - Brain injury and disease prevention research*	57.941	65.000
Congressional Add: *300A - Congressional Add - Clinical research*	9.659	30.000
Congressional Add: *300A - Congressional Add - Optimizing military health and performance*	-	7.000
Congressional Add: *300A - Congressional Add - Vector borne health protection*	-	5.000
Congressional Add: *300A - Congressional Add - Individual occupational and environmental exposure monitoring*	-	10.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0603115DHA *I Medical Technology Development*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Congressional Add: *300A - Congressional Add - Telemedicine and advanced technology research center*	-	2.000
Congressional Add: *300A - Congressional Add - Syndromic surveillance for emerging biothreats*	-	4.500
Congressional Add: *300A - Congressional Add - Human performance optimization*	-	10.000
Congressional Add: *300A - Congressional Add - Global noncommunicable disease interventions*	-	10.000
Congressional Add: *300A - Congressional Add - Special operations TBI pilot program*	-	4.000
Congressional Add: *300A - Congressional Add - Military-civilian trauma partnerships*	-	5.000
Congressional Add: *300A - Congressional Add - Non-direction blast sensors*	-	2.000
Congressional Add: *300A - Congressional Add - Wound management technology development*	-	25.000
Congressional Add: *300A - Congressional Add - National Intrepid Center of Excellence creative arts therapy*	-	10.000
Congressional Add: *Peer-reviewed military burn research*	-	10.000
Congressional Add: *Peer-reviewed Neurofibromatosis research*	-	25.000
Congressional Add: *Peer-reviewed Parkinson's research*	-	16.000
Congressional Add Subtotals for Project: 300A	1,787.181	1,986.880
Project: 373H: *GDF - MTD (Medical Advanced Technology)*		
Congressional Add: *N/A*	0.000	-
Congressional Add Subtotals for Project: 373H	0.000	-
Project: 511: *Cancer Moonshot Initiatives*		
Congressional Add: *Cancer Moonshot Initiatives (USUHS)*	0.000	-
Congressional Add Subtotals for Project: 511	0.000	-
Congressional Add Totals for all Projects	1,787.181	1,986.880

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 300A / *CSI - Congressional Special Interests*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
300A: *CSI - Congressional Special Interests*	4,594.732	1,787.181	1,986.880	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-

A. Mission Description and Budget Item Justification

In FY 2023, the Defense Health Program funded Congressional Special Interest (CSI) directed research. The strategy for the FY 2023 Congressionally-directed research program is to stimulate innovative research through a competitive, focused, peer-reviewed medical research at intramural and extramural research sites. Because of the CSI annual structure, out-year funding is not programmed.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
Congressional Add: 245A - Amyotrophic Lateral Sclerosis (ALS) Research	38.665	40.000
FY 2022 Accomplishments: This Congressional Special Interest initiative provided funds for research in Amyotrophic Lateral Sclerosis (ALS). ALS is a degenerative neurological disorder that causes muscle weakness and atrophy throughout the body. The ALS Research Program is a broadly-competed, peer-reviewed research program with the goal to contribute to a cure for ALS by funding innovative preclinical research to develop new treatments for ALS.		
FY 2023 Plans: This Congressional Special Interest initiative provided funds for research in Amyotrophic Lateral Sclerosis (ALS). ALS is a degenerative neurological disorder that causes muscle weakness and atrophy throughout the body. The ALS Research Program is a broadly-competed, peer-reviewed research program with the goal to contribute to a cure for ALS by funding innovative preclinical research to develop new treatments for ALS.		
Congressional Add: 248 - Program increase - Armed Forces Institute of Regenerative Medicine III	-	10.000
FY 2023 Plans: CSI-Enacted Prog Increase		
Congressional Add: 293A - Autism Research	14.499	15.000
FY 2022 Accomplishments: This Congressional Special Interest initiative provided funds for Autism research. The Autism Research Program seeks to improve treatment outcomes of Autism Spectrum Disorder (ASD), lead		

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
to a better understanding of ASD, and integrate basic science and clinical observations by promoting innovative research. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for Autism research. The Autism Research Program seeks 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.		
Congressional Add: 296A - Bone Marrow Failure Disease Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for bone marrow failure diseases research. The mission of the Bone Marrow Failure Research Program is to sponsor innovative research that will advance the understanding of inherited and acquired bone marrow failure diseases, and 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. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for bone marrow failure diseases research. The mission of the Bone Marrow Failure Research Program is to sponsor innovative research that will advance the understanding of inherited and acquired bone marrow failure diseases, and 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.	7.250	7.500
Congressional Add: 310A - Peer-Reviewed Ovarian Cancer Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for ovarian cancer research. In striving to achieve the goal of eliminating ovarian cancer, the Ovarian Cancer Research Program (OCRP) challenges the research community to address high impact, innovative research. The FY 2018 OCRP solicited innovative ideas that provide new paradigms, leverage critical resources, facilitate synergistic, multidisciplinary partnerships, and cultivate the next generation of investigators in ovarian cancer. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for ovarian cancer research. In striving to achieve the goal of eliminating ovarian cancer, the Ovarian Cancer Research Program (OCRP) challenges the research community to address high impact, innovative research. The FY 2018 OCRP solicited innovative ideas that provide new paradigms, leverage critical resources, facilitate synergistic, multidisciplinary partnerships, and cultivate the next generation of investigators in ovarian cancer.	43.499	45.000
Congressional Add: 328A - Peer- Reviewed Multiple Sclerosis Research	19.333	20.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
FY 2022 Accomplishments: This Congressional Special Interest initiative provided funds for Multiple Sclerosis (MS) research. The mission of the Multiple Sclerosis Research Program (MSRP) is to support pioneering concepts and high-impact research relevant to the prevention, etiology, pathogenesis, assessment, and treatment of MS. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for Multiple Sclerosis (MS) research. The mission of the Multiple Sclerosis Research Program (MSRP) is to support pioneering concepts and high-impact research relevant to the prevention, etiology, pathogenesis, assessment, and treatment of MS.		
Congressional Add: 335A - Peer-Reviewed Cancer Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for the study of cancers designated by Congress: adrenal cancer; bladder cancer; blood cancers; brain cancer; colorectal cancer; immunotherapy; Listeria-based regimens for cancer; liver cancer, lymphoma; melanoma and other skin cancers; mesothelioma; myeloma; neuroblastoma; pancreatic cancer; pediatric brain tumors; cancers in children, adolescences and young adults; and stomach cancer. The goal of the Peer-Reviewed Cancer Research Program is to improve the quality of life by decreasing the impact of cancer on Service members, their families, and the American public. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for the study of cancers designated by Congress: adrenal cancer; bladder cancer; blood cancers; brain cancer; colorectal cancer; immunotherapy; Listeria-based regimens for cancer; liver cancer, lymphoma; melanoma and other skin cancers; mesothelioma; myeloma; neuroblastoma; pancreatic cancer; pediatric brain tumors; cancers in children, adolescences and young adults; and stomach cancer. The goal of the Peer-Reviewed Cancer Research Program is to improve the quality of life by decreasing the impact of cancer on Service members, their families, and the American public.	125.664	130.000
Congressional Add: 336A - Peer-Reviewed Lung Cancer Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for lung cancer research. The Lung Cancer Research Program is a broadly-competed, peer-reviewed research program with the goal to eradicate deaths from lung cancer to better the health and welfare of military Service members, Veterans, their families, and the American public. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for lung cancer research. The Lung Cancer Research Program is a broadly-competed, peer-reviewed research program with the goal to eradicate	19.333	25.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
deaths from lung cancer to better the health and welfare of military Service members, Veterans, their families, and the American public.		
Congressional Add: 337A - Peer-Reviewed Orthopaedic Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for orthopedic research to advance optimal treatment and rehabilitation from neuromusculoskeletal (bone, muscle, tendon, ligament, nerve, and cartilage) injuries sustained during combat or combat-related activities. The goal of the FY 2018 Peer-Reviewed Orthopaedic Research Program was to provide all Warriors affected by orthopedic injuries sustained in the defense of our Constitution the opportunity for optimal recovery and restoration of function. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for orthopedic research to advance optimal treatment and rehabilitation from neuromusculoskeletal (bone, muscle, tendon, ligament, nerve, and cartilage) injuries sustained during combat or combat-related activities. The goal of the FY 2018 Peer-Reviewed Orthopaedic Research Program was to provide all Warriors affected by orthopedic injuries sustained in the defense of our Constitution the opportunity for optimal recovery and restoration of function.	28.999	30.000
Congressional Add: 338A - Peer-Reviewed Spinal Cord Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for spinal cord injury (SCI) research. The FY 2018 Spinal Cord Injury Research Program challenged the scientific community to design research that will foster new directions for and address neglected issues in the field of SCI research with particular focus on three areas: (1) pre-hospital, prolonged field care, en route care, and early hospital management of SCI; (2) development, validation, and timing of promising interventions to address consequences of SCI and to improve recovery; and (3) identification and validation of best practices in SCI. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for spinal cord injury (SCI) research. The FY 2018 Spinal Cord Injury Research Program challenged the scientific community to design research that will foster new directions for and address neglected issues in the field of SCI research with particular focus on three areas: (1) pre-hospital, prolonged field care, en route care, and early hospital management of SCI; (2) development, validation, and timing of promising interventions to address consequences of SCI and to improve recovery; and (3) identification and validation of best practices in SCI.	38.665	40.000
Congressional Add: 339A - Peer-Reviewed Vision Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for vision restoration research. The Peer-Reviewed Vision Research Program supported research targeting the causes, effects and treatments of eye damage, visual deficits due to traumatic brain injury (TBI) and diseases that, despite their different mechanisms of development, all have a common end result -- degeneration of the critical components	19.333	20.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
of the eye and impairment or loss of vision. The results of this research are anticipated to support restoration and maintenance of visual function to ensure and sustain combat readiness and directly benefit the lives of military, Veteran, and civilian populations. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for vision restoration research. The Peer-Reviewed Vision Research Program supported research targeting the causes, effects and treatments of eye damage, visual deficits due to traumatic brain injury (TBI) and diseases that, despite their different mechanisms of 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 anticipated to support restoration and maintenance of visual function to ensure and sustain combat readiness and directly benefit the lives of military, Veteran, and civilian populations.		
Congressional Add: 352A - Traumatic Brain Injury/Psychological Health Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for research aimed to prevent, mitigate, and treat the effects of combat-relevant traumatic stress and combat-related traumatic brain injury (TBI) on function, wellness, and overall quality of life, including interventions across the deployment lifecycle for warriors, Veterans, family members, caregivers, and communities. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for research aimed to prevent, mitigate, and treat the effects of combat-relevant traumatic stress and combat-related traumatic brain injury (TBI) on function, wellness, and overall quality of life, including interventions across the deployment lifecycle for warriors, Veterans, family members, caregivers, and communities.	169.163	175.000
Congressional Add: 380A - Peer-Reviewed Breast Cancer Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for breast cancer research. The Breast Cancer Research Program challenged the scientific community to design research that addresses the urgency of ending breast cancer. Applications were required to address at least one of nine overarching challenges, which were focused on preventing breast cancer, identifying determinants of breast cancer initiation, risk, or susceptibility, distinguishing deadly from non-deadly breast cancers, conquering the problems of over-diagnosis and over-treatment, identifying what drives breast cancer growth and determining how to stop it, identifying why some breast cancers become metastatic, determining how to prevent recurrence, revolutionizing treatment regimens by replacing them with ones that are more effective, less toxic, and impact survival, and eliminating the mortality associated with metastatic breast cancer. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for breast cancer research. The Breast Cancer Research Program challenged the scientific community to design research that addresses	144.997	150.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
the urgency of ending breast cancer. Applications were required to address at least one of nine overarching challenges, which were focused on preventing breast cancer, identifying determinants of breast cancer initiation, risk, or susceptibility, distinguishing deadly from non-deadly breast cancers, conquering the problems of over-diagnosis and over-treatment, identifying what drives breast cancer growth and determining how to stop it, identifying why some breast cancers become metastatic, determining how to prevent recurrence, revolutionizing treatment regimens by replacing them with ones that are more effective, less toxic, and impact survival, and eliminating the mortality associated with metastatic breast cancer.		
Congressional Add: 390A - Peer-Reviewed Prostate Cancer Research	106.328	110.000
FY 2022 Accomplishments: This Congressional Special Interest initiative provided funds for prostate cancer research. The vision for the Prostate Cancer Research Program (PCRP) 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 PCRP solicited research applications addressing four overarching challenges: (1) distinguish aggressive from indolent disease in men newly diagnosed with prostate cancer; (2) develop strategies to prevent progression to lethal prostate cancer; (3) develop effective treatments and address mechanisms of resistance for men with high risk or metastatic prostate cancer; and (4) develop strategies to optimize the physical and mental health of men with prostate cancer. In addition, research projects were solicited in the areas of: data science and analytics; imaging and targeted radionuclide therapy; population science; precision medicine, screening, and surveillance; survivorship, including psychosocial impact on the patient and family; therapy and mechanisms of resistance and response; and tumor and microenvironment biology.		
FY 2023 Plans: This Congressional Special Interest initiative provided funds for prostate cancer research. The vision for the Prostate Cancer Research Program (PCRP) 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 PCRP solicited research applications addressing four overarching challenges: (1) distinguish aggressive from indolent disease in men newly diagnosed with prostate cancer; (2) develop strategies to prevent progression to lethal prostate cancer; (3) develop effective treatments and address mechanisms of resistance for men with high risk or metastatic prostate cancer; and (4) develop strategies to optimize the physical and mental health of men with prostate cancer. In addition, research projects were solicited in the areas of: data science and analytics; imaging and targeted radionuclide therapy; population science; precision medicine, screening, and surveillance;		

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
survivorship, including psychosocial impact on the patient and family; therapy and mechanisms of resistance and response; and tumor and microenvironment biology.		
Congressional Add: 396A - Research in Alcohol and Substance Use Disorders ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for alcohol and substance use disorders (ASUD) research. The goal of the Alcohol and Substance Abuse Disorders Research Program was to identify and develop new medications to improve treatment outcomes for ASUD, especially related to traumatic brain injury (TBI) and post-traumatic stress disorder (PTSD). ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for alcohol and substance use disorders (ASUD) research. The goal of the Alcohol and Substance Abuse Disorders Research Program was to identify and develop new medications to improve treatment outcomes for ASUD, especially related to traumatic brain injury (TBI) and post-traumatic stress disorder (PTSD).	3.867	4.000
Congressional Add: 400A - Peer-Reviewed Medical Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for military-relevant research in Congressionally directed topic areas toward the goal of improving the health and well-being of all military Service members, Veterans, and beneficiaries. The 52 Congressionally-directed topics for were: Acute Lung Injury, Antimicrobial Resistance, Arthritis, Burn Pit Exposure, Cardiomyopathy, Cerebellar Ataxia, Chronic Migraine and Post-traumatic Headache, Chronic Pain Management, Congenital Heart Disease, Constrictive Bronchiolitis, Diabetes, Dystonia, Eating Disorders, Emerging Infectious Diseases, Endometriosis, Epidermolysis Bullosa, Focal Segmental Glomerulosclerosis, Fragile X, Frontotemporal Degeneration, Guillain-Barre Syndrome, Hepatitis B and C, Hereditary Angioedema, Hydrocephalus, Immunomonitoring of Intestinal Transplants, Inflammatory Bowel Diseases, Interstitial Cystitis, Lung Injury, Malaria, Metals Toxicology, Mitochondrial Disease, Musculoskeletal Disorders, Myotonic Dystrophy, Non-Opioid Pain Management, Nutrition Optimization, Pancreatitis, Pathogen-Inactivated Blood Products, Post-Traumatic Osteoarthritis, Pressure Ulcers, Pulmonary Fibrosis, Respiratory Health, Rett Syndrome, Rheumatoid Arthritis, Scleroderma, Sleep Disorders, Spinal Muscular Atrophy, Sustained-Release Drug Delivery, Tinnitus, Tissue Regeneration, Tuberculosis, Vaccine Development for Infectious Diseases, Vascular Malformations, and Women's Heart Disease. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for military-relevant research in Congressionally directed topic areas toward the goal of improving the health and well-being of all military Service members, Veterans, and beneficiaries. The 52 Congressionally-directed topics for were: Acute Lung Injury, Antimicrobial Resistance, Arthritis, Burn Pit Exposure, Cardiomyopathy, Cerebellar Ataxia, Chronic Migraine	357.660	370.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
and Post-traumatic Headache, Chronic Pain Management, Congenital Heart Disease, Constrictive Bronchiolitis, Diabetes, Dystonia, Eating Disorders, Emerging Infectious Diseases, Endometriosis, Epidermolysis Bullosa, Focal Segmental Glomerulosclerosis, Fragile X, Frontotemporal Degeneration, Guillain-Barre Syndrome, Hepatitis B and C, Hereditary Angioedema, Hydrocephalus, Immunomonitoring of Intestinal Transplants, Inflammatory Bowel Diseases, Interstitial Cystitis, Lung Injury, Malaria, Metals Toxicology, Mitochondrial Disease, Musculoskeletal Disorders, Myotonic Dystrophy, Non-Opioid Pain Management, Nutrition Optimization, Pancreatitis, Pathogen-Inactivated Blood Products, Post-Traumatic Osteoarthritis, Pressure Ulcers, Pulmonary Fibrosis, Respiratory Health, Rett Syndrome, Rheumatoid Arthritis, Scleroderma, Sleep Disorders, Spinal Muscular Atrophy, Sustained-Release Drug Delivery, Tinnitus, Tissue Regeneration, Tuberculosis, Vaccine Development for Infectious Diseases, Vascular Malformations, and Women's Heart Disease.		
Congressional Add: 417A - Peer-Reviewed Alzheimer Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for Alzheimer's disease (AD) research. The Peer-Reviewed Alzheimer's Research Program (PRARP) sought to: (1) address the long-term consequences of traumatic brain injury (TBI) as they pertain to AD and AD-related dementias (ADRD); and (2) reduce the burden on AD/ADRD-affected individuals and caregivers, especially in the military and Veteran communities. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for Alzheimer's disease (AD) research. The Peer-Reviewed Alzheimer's Research Program (PRARP) sought to: (1) address the long-term consequences of traumatic brain injury (TBI) as they pertain to AD and AD-related dementias (ADRD); and (2) reduce the burden on AD/ADRD-affected individuals and caregivers, especially in the military and Veteran communities.	14.499	15.000
Congressional Add: 439A - Joint Warfighter Medical Research ***FY 2022 Accomplishments:*** The FY 2022 Joint Warfighter Medical Research Program (JWMRP) provides continuing support for promising projects previously funded by Congressional Special Interest initiatives. The focus is to augment and accelerate high priority DoD and Service medical requirements that are close to achieving their objectives and yield a benefit to military medicine. ***FY 2023 Plans:*** The FY 2023 Joint Warfighter Medical Research Program (JWMRP) provides continuing support for promising projects previously funded by Congressional Special Interest initiatives. The focus is to augment and accelerate high priority DoD and Service medical requirements that are close to achieving their objectives and yield a benefit to military medicine.	23.199	9.000
Congressional Add: 452A - Peer-Reviewed Reconstructive Transplant Research	11.600	12.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
FY 2022 Accomplishments: This Congressional Special Interest initiative provided funds for reconstructive transplantation research. The FY 2018 Reconstructive Transplant Research Program (RTRP) focused on research in reconstructive transplantation for the refinement of approaches for hand, face, and other vascularized composite tissue allografts, which includes multiple body system components such as skin, muscle, tendon, nerves, bone, and blood vessels. In addition, the RTRP focused on research aimed toward improving access to reconstructive transplants, and on immunomodulation strategies that can reduce the need for immunosuppression regimens. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for reconstructive transplantation research. The FY 2018 Reconstructive Transplant Research Program (RTRP) focused on research in reconstructive transplantation for the refinement of approaches for hand, face, and other vascularized composite tissue allografts, which includes multiple body system components such as skin, muscle, tendon, nerves, bone, and blood vessels. In addition, the RTRP focused on research aimed toward improving access to reconstructive transplants, and on immunomodulation strategies that can reduce the need for immunosuppression regimens.		
Congressional Add: 454A - Orthotics and Prosthetics Outcomes Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for orthotics and prosthetics outcomes research. The goal of the FY 2018 Orthotics and Prosthetics Outcomes Research Program was to support research that evaluates the comparative effectiveness of orthotic and prosthetic devices using patient-centric outcomes for Service members and Veterans who have undergone limb amputation. The program focused on outcomes-based best practices through analysis of the merits of prosthetic and orthotic devices currently available, and not on the development of new, or the improvement of existing, technology. The program intent was to generate clinically useful evidence to enhance and optimize patient outcomes. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for orthotics and prosthetics outcomes research. The goal of the FY 2018 Orthotics and Prosthetics Outcomes Research Program was to support research that evaluates the comparative effectiveness of orthotic and prosthetic devices using patient-centric outcomes for Service members and Veterans who have undergone limb amputation. The program focused on outcomes-based best practices through analysis of the merits of prosthetic and orthotic devices currently available, and not on the development of new, or the improvement of existing, technology. The program intent was to generate clinically useful evidence to enhance and optimize patient outcomes.	19.333	15.000
Congressional Add: 456A - HIV/AIDS Program	17.524	20.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
FY 2022 Accomplishments: This Congressional Special Interest initiative provided funds for HIV/AIDS research includes all medical research that attempts to prevent, treat, or cure HIV/AIDS, as well as fundamental research about the nature of HIV as an infectious agent and AIDS as the disease caused by HIV. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for HIV/AIDS research includes all medical research that attempts to prevent, treat, or cure HIV/AIDS, as well as fundamental research about the nature of HIV as an infectious agent and AIDS as the disease caused by HIV.		
Congressional Add: 459A - Peer-Reviewed Epilepsy Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for traumatic brain injury (TBI)-related epilepsy research. The Peer Reviewed Epilepsy Research Program supported studies to examine the interconnection between TBI and epilepsy in four scientific focus areas: (1) epidemiology; (2) markers and mechanisms of post traumatic epilepsy; (3) models of post-traumatic epilepsy; and (4) research into psychogenic (non-epileptic) seizures. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for traumatic brain injury (TBI)-related epilepsy research. The Peer Reviewed Epilepsy Research Program supported studies to examine the interconnection between TBI and epilepsy in four scientific focus areas: (1) epidemiology; (2) markers and mechanisms of post traumatic epilepsy; (3) models of post-traumatic epilepsy; and (4) research into psychogenic (non-epileptic) seizures.	11.600	12.000
Congressional Add: 463A – Program Increase: Restore Core Research Funding Reduction (GDF) ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative was directed toward DHP core research initiatives in PE 0603115. Funds supported medical technology development efforts in the areas of military operational medicine, combat casualty care, military infectious diseases, clinical and rehabilitative medicine, medical simulation and information sciences, and radiation health effects. ***FY 2023 Plans:*** This Congressional Special Interest initiative was directed toward DHP core research initiatives in PE 0603115. Funds supported medical technology development efforts in the areas of military operational medicine, combat casualty care, military infectious diseases, clinical and rehabilitative medicine, medical simulation and information sciences, and radiation health effects.	211.229	212.380
Congressional Add: 495 - Peer-Reviewed Tick-Borne Disease Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for tick-borne diseases research. The Peer Reviewed Tick-Borne Disease Research Program's mission was to support	6.766	7.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
research focused on understanding the pathogenesis of Lyme disease and other tick-borne illnesses and on delivering innovative solutions to prevent and better diagnose and treat their manifestations. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for tick-borne diseases research. The Peer Reviewed Tick-Borne Disease Research Program's mission was to support research focused on understanding the pathogenesis of Lyme disease and other tick-borne illnesses and on delivering innovative solutions to prevent and better diagnose and treat their manifestations.		
Congressional Add: 496 -Trauma Clinical Research Program ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for advancing trauma clinical research. Through a competitive Request for Proposals (RFP) process, the Department of Defense (DoD) has created a coordinated, multi-institutional clinical research network of civilian and military trauma centers to address the military relevant priorities and gaps in trauma care. The Indefinite Deliverable Indefinite Quantity (IDIQ) contract established the Linking Investigations in Trauma and Emergency Services (LITES) trauma research network. The LITES network creates a standing research consortium of US trauma systems and centers with the capability to conduct prospective, multicenter, injury care and outcomes research of relevance to the DoD. The LITES network is led by the University of Pittsburgh and features nine partnering sites, and the network has to ability to expand or contract based on the research performed. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for advancing trauma clinical research. Through a competitive Request for Proposals (RFP) process, the Department of Defense (DoD) has created a coordinated, multi-institutional clinical research network of civilian and military trauma centers to address the military relevant priorities and gaps in trauma care. The Indefinite Deliverable Indefinite Quantity (IDIQ) contract established the Linking Investigations in Trauma and Emergency Services (LITES) trauma research network. The LITES network creates a standing research consortium of US trauma systems and centers with the capability to conduct prospective, multicenter, injury care and outcomes research of relevance to the DoD. The LITES network is led by the University of Pittsburgh and features nine partnering sites, and the network has to ability to expand or contract based on the research performed.	9.635	5.000
Congressional Add: 501 - Peer-Reviewed Hearing Restoration Research (Army) ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds to pursue promising, necessary research for treatment of burdensome and very prevalent auditory system injury. The vision of the Hearing Restoration Research Program is to improve the operational effectiveness, medical readiness and quality of life of Service members and Veterans with auditory system injuries. The mission of the program is to	9.666	5.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
advance the science of hearing restoration by delivering groundbreaking research and solutions that remove barriers to successful treatment of auditory system injury. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds to pursue promising, necessary research for treatment of burdensome and very prevalent auditory system injury. The vision of the Hearing Restoration Research Program is to improve the operational effectiveness, medical readiness and quality of life of Service members and Veterans with auditory system injuries. The mission of the program is to advance the science of hearing restoration by delivering groundbreaking research and solutions that remove barriers to successful treatment of auditory system injury.		
Congressional Add: 502 - CSI - Peer-Reviewed Kidney Cancer Research (Army) ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for research into kidney cancer. The vision of the Kidney Cancer Research Program is to eliminate kidney cancer. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for research into kidney cancer. The vision of the Kidney Cancer Research Program is to eliminate kidney cancer.	48.331	50.000
Congressional Add: 503 - CSI - Peer-Reviewed Lupus Research (Army) ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for research into lupus. The vision of the Lupus Research Program is to cure lupus through partnership of scientists, clinicians, and consumers. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for research into lupus. The vision of the Lupus Research Program is to cure lupus through partnership of scientists, clinicians, and consumers.	9.666	10.000
Congressional Add: 540A - Global HIV/AIDS Prevention (Navy) ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for research for Global HIV/AIDS Prevention. The program is responsible for assisting foreign military partners with the development and implementation of culturally focused, military-specific HIV/AIDS prevention, care, and treatment programs in more than 55 countries around the globe. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for research for Global HIV/AIDS Prevention. The program is responsible for assisting foreign military partners with the development and implementation of culturally focused, military-specific HIV/AIDS prevention, care, and treatment programs in more than 55 countries around the globe.	10.000	12.000
Congressional Add: 660A - Tuberous Sclerosis Complex (TSC)	7.733	8.000

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
FY 2022 Accomplishments: This Congressional Special Interest initiative provided funds for Tuberous Sclerosis Complex (TSC) research. The Tuberous Sclerosis Complex Research Program (TSCRP) sought to support innovative research to improve the lives of individuals with TSC through understanding the pathogenesis and manifestations of TSC and developing improved diagnostic and treatment approaches. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for Tuberous Sclerosis Complex (TSC) research. The Tuberous Sclerosis Complex Research Program (TSCRP) sought to support innovative research to improve the lives of individuals with TSC through understanding the pathogenesis and manifestations of TSC and developing improved diagnostic and treatment approaches.		
Congressional Add: 790A - Peer-Reviewed Duchenne Muscular Dystrophy ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for Duchenne Muscular Dystrophy (DMD) research. DMD is caused by gene mutations in skeletal muscle proteins, and affects approximately 1 in 3,600 boys causing muscle degeneration and eventual death. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for Duchenne Muscular Dystrophy (DMD) research. DMD is caused by gene mutations in skeletal muscle proteins, and affects approximately 1 in 3,600 boys causing muscle degeneration and eventual death.	9.666	10.000
Congressional Add: 512 - Peer-Reviewed Melanoma Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for Peer-Reviewed Melanoma Research. The program is responsible for innovative research that will impact the prevention, diagnosis, staging, and treatment of melanoma in the near and intermediate future. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for Peer-Reviewed Melanoma Research. The program is responsible for innovative research that will impact the prevention, diagnosis, staging, and treatment of melanoma in the near and intermediate future.	38.665	40.000
Congressional Add: 513 - Chronic Pain Management ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for Chronic Pain Management. The program is responsible to develop new approaches to alleviate Veterans' pain, which may result from spinal cord injury, burns, amputations, traumatic brain injury, cancer, or musculoskeletal conditions. The program explores ways to decrease medical and behavioral harms related to opioid use and misuse,	14.499	15.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
improve access to effective complementary approaches to pain care, and help treatment options to address pain and improve function, among other areas. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for Chronic Pain Management. The program is responsible to develop new approaches to alleviate Veterans' pain, which may result from spinal cord injury, burns, amputations, traumatic brain injury, cancer, or musculoskeletal conditions. The program explores ways to decrease medical and behavioral harms related to opioid use and misuse, improve access to effective complementary approaches to pain care, and help treatment options to address pain and improve function, among other areas.		
Congressional Add: 514 - Combat Readiness Medical Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for Combat Readiness Medical Research. This program focuses on research relating to forward-deployable solutions that can promptly address life threatening injuries and medical diagnostics, threats, and treatments, and medical threats and treatments for Service members in battlefield settings. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for Combat Readiness Medical Research. This program focuses on research relating to forward-deployable solutions that can promptly address life threatening injuries and medical diagnostics, threats, and treatments, and medical threats and treatments for Service members in battlefield settings.	9.666	5.000
Congressional Add: 515 - Peer-Reviewed Pancreatic Cancer Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for Peer-Reviewed Pancreatic Cancer Research. The program support research on the prevention, detection, diagnosis, and treatment of pancreatic cancer. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for Peer-Reviewed Pancreatic Cancer Research. The program support research on the prevention, detection, diagnosis, and treatment of pancreatic cancer.	14.499	15.000
Congressional Add: 516 - Peer-Reviewed Rare Cancers Research	16.916	17.500

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
FY 2022 Accomplishments: This Congressional Special Interest initiative provided funds for Peer-Reviewed Rare Cancers Research. The program support research on the prevention, detection, diagnosis, and treatment of rare cancer. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for Peer-Reviewed Rare Cancers Research. The program support research on the prevention, detection, diagnosis, and treatment of rare cancer.		
Congressional Add: 518 - Peer-Reviewed Toxic Exposures Research ***FY 2022 Accomplishments:*** This Congressional Special Interest initiative provided funds for Peer-Reviewed Toxic Exposures Research. ***FY 2023 Plans:*** This Congressional Special Interest initiative provided funds for Peer-Reviewed Toxic Exposures Research.	28.999	30.000
Congressional Add: 522 - Program Increase - USUHS military surgical teams simulation technology ***FY 2022 Accomplishments:*** CSI-Enacted Prog Increase	4.836	-
Congressional Add: 523 - Program Increase - USUHS multi-domain operations ***FY 2022 Accomplishments:*** CSI-Enacted Prog Increase ***FY 2023 Plans:*** CSI-Enacted Prog Increase	33.799	30.000
Congressional Add: 300A - Congressional Add - Brain injury and disease prevention research ***FY 2022 Accomplishments:*** FY22 Congressional Add ***FY 2023 Plans:*** FY23 Congressional Add	57.941	65.000
Congressional Add: 300A - Congressional Add - Clinical research ***FY 2022 Accomplishments:*** FY22 Congressional Add ***FY 2023 Plans:*** FY23 Congressional Add	9.659	30.000
Congressional Add: 300A - Congressional Add - Optimizing military health and performance ***FY 2023 Plans:*** FY23 Congressional Add	-	7.000
Congressional Add: 300A - Congressional Add - Vector borne health protection	-	5.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 300A / *CSI - Congressional Special Interests*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
FY 2023 Plans: FY23 Congressional Add		
Congressional Add: 300A - Congressional Add - Individual occupational and environmental exposure monitoring ***FY 2023 Plans:*** FY23 Congressional Add	-	10.000
Congressional Add: 300A - Congressional Add - Telemedicine and advanced technology research center ***FY 2023 Plans:*** FY23 Congressional Add	-	2.000
Congressional Add: 300A - Congressional Add - Syndromic surveillance for emerging biothreats ***FY 2023 Plans:*** FY23 Congressional Add	-	4.500
Congressional Add: 300A - Congressional Add - Human performance optimization ***FY 2023 Plans:*** FY23 Congressional Add	-	10.000
Congressional Add: 300A - Congressional Add - Global noncommunicable disease interventions ***FY 2023 Plans:*** FY23 Congressional Add	-	10.000
Congressional Add: 300A - Congressional Add - Special operations TBI pilot program ***FY 2023 Plans:*** FY23 Congressional Add	-	4.000
Congressional Add: 300A - Congressional Add - Military-civilian trauma partnerships ***FY 2023 Plans:*** FY23 Congressional Add	-	5.000
Congressional Add: 300A - Congressional Add - Non-direction blast sensors ***FY 2023 Plans:*** FY23 Congressional Add	-	2.000
Congressional Add: 300A - Congressional Add - Wound management technology development ***FY 2023 Plans:*** FY23 Congressional Add	-	25.000
Congressional Add: 300A - Congressional Add - National Intrepid Center of Excellence creative arts therapy ***FY 2023 Plans:*** FY23 Congressional Add	-	10.000
Congressional Add: Peer-reviewed military burn research ***FY 2023 Plans:*** FY23 Congressional Add	-	10.000
Congressional Add: Peer-reviewed Neurofibromatosis research	-	25.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
FY 2023 Plans: FY23 Congressional Add		
Congressional Add: Peer-reviewed Parkinson's research	-	16.000
FY 2023 Plans: FY23 Congressional Add		
Congressional Adds Subtotals	1,787.181	1,986.880

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.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 238C / *Air & Space Austere Environment Patient Care and Transport (AF)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
238C: *Air & Space Austere Environment Patient Care and Transport (AF)*	27.575	12.212	12.866	13.122	0.000	13.122	13.386	13.654	13.928	14.207	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project advances combat casualty care in the air through biomedical research into interventional strategies and technologies that mitigate the risks for additional insult due to aeromedical evacuation. It transitions promising Science and Technology (S&T) from PE 0602115DHA's Project Code 306D - Advanced Diagnostics & Therapeutics Research & Development - Medical and Operational Biosciences (AF), and civilian groups into knowledge and materiel products that promote the recovery and return to duty of injured or ill service members, from point of injury back to definitive care. This project aligns to the Air Force Medical Service (AFMS) Medical Modernization Priorities to support Aeromedical Evacuation and En Route Care (AE/ERC). Research within this program includes but is not limited to: ground medical operations in agile combat employment, autonomous care of patient movement, and optimization of patient movement.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Air & Space Austere Environment Patient Care and Transport (AF)	12.212	12.866	13.122	0.000	13.122
Description: Advanced research and development to model, improve and optimize enroute care systems in multi-domain operations. Efforts include S&T to provide autonomous patient care, telemedicine and decision-assist algorithms, impact of transport on patient pathophysiology, and optimization of care provider performance and stabilization / resuscitation strategies to improve service member survival and return to duty. Research will focus on data, artificial intelligence (AI) / machine learning (ML), robotics, software/hardware design, emerging technologies, optimizing critical AE/ERC teams through training, team dynamics, communication, countering skill decline and modeling, and enhancing ground operational medical capabilities to ensure Airmen and Guardians maintain survivability and resiliency in austere, degraded, and damaged locations.					
FY 2023 Plans: Understanding the effects of multiple flights following impact and blast-induced traumatic brain injury on long-term outcomes, automated decision support, telemedicine, telementoring, telemonitoring (TM3) and advancing technologies for autonomous patient care and decision-assist. Operationally define levels of autonomy of care solutions for AE/ERC and identify technologies for evaluation in simulated environment. Use modeling and simulation tools to build digital models of equipment and examine patient throughput and personnel requirements. Investigate expected operational triage and equipment requirements, expected injury patterns, and physiological impact of prolonged care for near-peer threat scenarios. Investigate technology and knowledge solutions for expanding EMEDS to a ground medical agile combat employment execution team to					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 238C / *Air & Space Austere Environment Patient Care and Transport (AF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
include effects of arctic conditions on functionality and protection for medications, equipment, and facilities in allowance standard and enhancing blood products in agile combat employment environments. ***FY 2024 Base Plans:*** Evaluate potential autonomous care solutions in simulated environment and deliver modeling and simulation tool for further research. Develop models for AE mission set. Evaluate rapid thawing/warming technologies and blood product solutions in extreme environments. Investigate decision support/decision assist tools to returned injured to duty, resolve injury in less time, and increase capability to hold a patient with very little monitoring required. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase is due to inflation.					
Accomplishments/Planned Programs Subtotals	12.212	12.866	13.122	0.000	13.122

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• BA-1, PE 0807714HP: *Other Consolidated Health Support*	-	-	-	-	-	-	-	-	-		

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 284B / *Air & Space Physiology, Medicine and Human Performance (AF)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
284B: *Air & Space Physiology, Medicine and Human Performance (AF)*	23.351	10.716	11.471	11.700	0.000	11.700	11.933	12.173	12.416	12.663	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project enables, sustains, and optimizes performance of Airmen through the elevation and alleviation of health effects associated with Air Force (AF) operational missions. This work addresses operational environments such as the mitigation of stress in AF personnel, to include aircrew, care providers, aircraft maintainers, intelligence, surveillance and cyber operators, as well as remote piloted aircraft operators. It transitions promising Science and Technology (S&T) from PE 0602115DHA's Project Code 306D - Advanced Diagnostics & Therapeutics Research & Development - Medical and Operational Biosciences (AF), and civilian groups into knowledge and materiel products to sustain, and enhance Airman and Guardian health and performance in operational environments. Research within this project includes but is not limited to: airman performance and readiness, advancing air and space medicine, and medical operator performance digital engineering.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Air & Space Physiology, Medicine and Human Performance (AF)	10.716	11.471	11.700	0.000	11.700
Description: Advanced technology development to enable, sustain, and optimize cognitive, behavior and physiologic performance in high-priority career fields for the United States Air Force (USAF) and in multi-domain operations. The sub-project areas include cognitive and physiologic performance under operational and environmental stressors, detection and improvement of physiological performance, and safety via sensor systems and targeted conditioning, which includes training techniques for optimal performance. This project also develops and demonstrates technologies which ingest health status monitoring data to provide scalable situational awareness of individual, unit, and group medical readiness in support of command and control and develops strategies to mitigate performance limitations through physical, pharmacological/non-pharmacological, or behavioral medical interventions and/or technological augmentation.					
FY 2023 Plans: To provide evidence-based test battery for physical attributes associated with G-performance, Fighter Aircrew Conditioning Program (FACP) update recommendations, updated cognitive models associated with performance in DCGS environments, modernized vision screening methodologies, and characterization of the additive effects of the pilot flight ensemble and associated changes in the human response. Advanced aeromedical digital engineering to enable human factors to be incorporated into model-based safety assessments for acute injury. Vision knowledge products to revise medical standards. Optimization of Human Capital performance model to					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 284B / *Air & Space Physiology, Medicine and Human Performance (AF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
inform/re-evaluate medical selection and readiness criteria. Apply mission modeling methods to calculate human performance impact using digital modeling and simulation. ***FY 2024 Base Plans:*** Leverage knowledge gained from Budget Activity 6.2 ready medical solutions research to investigate medical equipment and patient transport for air and space environments. Support aircrew conditioning program research, investigate airworthiness certification criteria for neck injury and aircrew qualification standards. Enhanced health hazard risk assessment tool for spinal injury risk of aircrew systems. Model validation and incorporation with airworthiness assessment standards. Enhance readiness of medical personnel to perform in cold region environments by investigating low/zero/reduced SWaP equipment and material solutions. Complete commercial Automated Vision Tester (AVT). Deliver medical modeling capabilities to wargaming models to inform medical impact on the battlefield. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase is due to inflation.					
Accomplishments/Planned Programs Subtotals	10.716	11.471	11.700	0.000	11.700

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 285A / *Operational Medicine Research & Development (Budgeted) (AF)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
285A: *Operational Medicine Research & Development (Budgeted) (AF)*	9.828	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Operational Medicine project develops validated solutions for the delivery of preventative care, intervention and treatment to Active Duty members and DoD beneficiaries. The primary focus areas include physiological and psychological health. Sub-topics include resilience, personalized medicine, patient safety, and care coordination.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Operational Medicine Research & Development (Budgeted) (AF) ***Description:*** 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. ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A	0.000	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 307B / *Air & Space Force Health Protection (AF)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
307B: *Air & Space Force Health Protection (AF)*	26.893	11.044	11.630	11.862	0.000	11.862	12.099	12.341	12.587	12.840	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project delivers improved capabilities across the full spectrum of Air Force (AF) operations in the areas of directed energy and occupational and environmental health. Research involves the assessment and implementation of innovative technologies that enable effective surveillance, detection, identification, and mitigation of hazardous chemical, biological, directed energy, and other radiological and physical hazards that present a health risk to our Airmen and Guardians and threaten to degrade and disrupt operational readiness. The intent is to warn and protect AF operators, such as our high performance and high-altitude aircrews facing extreme environments. It transitions promising Science and Technology (S&T) from PE 0602115DHA's Project Code 306D - Advanced Diagnostics & Therapeutics Research & Development - Medical and Operational Biosciences (AF), and civilian groups into knowledge and materiel products to inform risk-based decisions, enable policy decisions, and provide modern software and technology to enable the Force Health Protection mission in the future fight. Research within this project encompasses understanding, protecting against, and mitigating hazards to the warfighter health to include chemical, biological, radiation, nuclear or extremes of environment. Research within this project includes but is not limited to: force health protection in agile combat employment, emerging hazards, and infection control in patient movement.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Air & Space Force Health Protection (AF)	11.044	11.630	11.862	0.000	11.862
Description: Advanced research to develop and model exposures within the realms of Airman occupation, expeditionary medicine, medical countermeasures of directed energy, aircrew health, and CBRNE environments as it relates to health readiness. This project area seeks to deliver improved capabilities across the full spectrum of Air Force operations to enable force health protection. Tools to enable preventative medicine and health protection during agile combat employment operations. Deliver enhanced capability to rapidly assess and predict the impact of emerging hazards and threats in the operational environment. Ensure maximum readiness of personnel and aircrafts to enable effective patient movement across the spectrum of operational challenges expected in the future fight. Research will include but is not limited to: operational insights exploration to map scenarios of preventative medicine operations in agile combat employment, sensors development/testing/ evaluation, data connectivity and networking, decision guidance tools for field use, and extreme environment solutions.					
FY 2023 Plans: To field exposure sensor flow process screening through human health machine learning algorithms for: realtime performance predictions, integrate high throughput toxico kinetics framework, understand limits of detection in					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 307B / *Air & Space Force Health Protection (AF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
operational environment. Map scenarios of preventative medicine operations in agile combat employment to understand challenges including operational input and feedback. Investigate passive sampling badges to help assess chemical exposures in far forward agile combat employment operations and wireless connectivity of sensors. Deliver real-time awareness app which integrates data from range of environmental hazard sensors. Risk assessment workflows for inhaled hazards. Conduct airflow model testing. ***FY 2024 Base Plans:*** Develop agile combat employment enabling technologies toolkit. Investigate flexible network deployment. Deliver ToxAdvisor which will provide rapid toxicological assessment for chemical exposures to Airmen in deployed environments via a stand-alone handheld tool. Rapid prediction of hazard impact using validated computer based models, established in-vitro screening and structured workflows. Identify infection control technologies, methods, processes and strategies to mitigate infection spread and decontaminate assets. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to inflation.					
Accomplishments/Planned Programs Subtotals	11.044	11.630	11.862	0.000	11.862

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 308B / *Expeditionary Medicine Research & Development (Budgeted) (AF)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
308B: *Expeditionary Medicine Research & Development (Budgeted) (AF)*	12.241	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project area identifies innovative techniques and technologies that can be employed by Air Force medics during prolonged field care operations. It includes technology to improve survivability and advance “zero-preventable deaths”. Sub-project areas include the development and validation of novel procedures, materials, techniques, and tools associated with expeditionary operations.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Expeditionary Medicine Research & Development (Budgeted) (AF) ***Description:*** This project provides advanced technology development to improve regenerative medicine and stabilization in prolonged field care operations. Efforts will include enhanced clinical guidelines and concept technology for treatment of non-compressible torso hemorrhage, development and application of portable ventilation monitoring, and development of new life and limb salvage technologies. ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A	0.000	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 308B / *Expeditionary Medicine Research & Development (Budgeted) (AF)*

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 309A / *Regenerative Medicine (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
309A: *Regenerative Medicine (USUHS)*	28.665	10.271	10.833	11.051	0.000	11.051	11.271	11.496	11.724	11.958	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Military Traumatic Brain Injury Initiative (MTBI2) formerly known as 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 and produce impactful knowledge products. MTBI2 (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 and military treatment facilities across the United States.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Military Traumatic Brain Injury Initiative (MTBI2) Formerly Center for Neuroscience and Regenerative Medicine (USUHS)	10.271	10.833	11.051	0.000	11.051
Description: The Military Traumatic Brain Injury Initiative (MTBI2) formerly the Center for Neuroscience and Regenerative Medicine (CNRM) is an interdisciplinary research group focused on military-relevant traumatic brain injury (TBI). MTBI2 (formerly CNRM) involves the Uniformed Services University (USU), the Walter Reed National Military Medical Center (WRNMMC), the National Institutes of Health (NIH), and multiple collaborators. MTBI2 (formerly CNRM) includes over 30 senior scientific investigators, 80 skilled staff members, and active research at greater than 10 locations in the Washington D.C. area and throughout the United States. ***FY 2023 Plans:*** (1) Design and execute rigorous clinical trials of candidate therapeutics with potential for direct benefit to military service members with acute TBI. There are 7 randomized controlled trials ongoing or in late-stage development, and several more in the planning stages. All trials involve U.S. military service members with readiness-relevant health concerns related to TBI, such as post-traumatic headaches, sleep disorders, and mood dysregulation. This objective involves building and maintaining a network of site collaborators and staff at multiple military treatment facilities around the U.S. that can efficiently execute trials in acute traumatic brain injury. (2) Design and execute rigorous clinical trials designed to improve neurologic outcomes and return warfighters with severe traumatic brain injury to optimal health. This involves establishing a Neurological Intensive Care Unit at San Antonio Military Medical Center that lays the groundwork for a collaborative network of Neurological Intensive Care Units that can complete Phase 1 and Phase II clinical trials in severe traumatic brain injury. This is in direct alignment with objective 4bi (Identify, develop, and deploy evidence-based treatment and					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 309A / *Regenerative Medicine (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
rehabilitation strategies for TBIs that will return warfighters to optimal health) of the Department of Defense Warfighter Brain Health Initiative. (3) Execute a major observational study on the effects of repeated sub-concussive blast exposures sustained during military heavy weapons training. This ongoing study involves objective assessments of Navy SEALs, range safety officers, and unexposed controls at multiple time points to assess baseline, acute, subacute and chronic effects. (4) Execute rigorous clinical practice guidelines based in the best evidence and world-wide expert opinion to improve the care of patients with all severities of traumatic brain injury. This involves solidifying partnerships with world leaders in neurotrauma and guideline development to produce guidelines applicable to civilians and military scenarios. This is in direct alignment with objective 5d (Translate Research Findings into knowledge and material products, practices and policies to maintain and optimize Warrior Brain Health. (5) Test 2 novel handheld devices designed for prolonged field care use by military pre-hospital providers. These include a) an ultralight intracranial hemorrhage detector that uses advanced infrared technology to localize life-threatening subdural and epidural hematomas without the need for a Computed tomography (CT) scanner; b) a fully self-contained tight seal burr hold device that will allow emergency treatment of life-threatening subdural and epidural hematomas in an austere environment by prehospital providers. These devices will be tested in a sheep model of subdural hematoma in collaboration with the Walter Reed Army Institute for Research (WRAIR) and the Johns Hopkins Applied Physics Lab. (6) Train future military TBI research leaders through a post-doctoral fellowship program in collaboration with the University of Maryland, direct mentoring of military researchers around the country, a bimonthly seminar series, and multiple other educational events. (7) Perform discovery research that lays a foundation for future clinical trials, including a) use of a military relevant TBI animal models involving combined repetitive blasts, plus impact, plus chronic stress to test candidate therapeutics, b) discovery of new imaging methods to detect blast-related brain injury, which at present can only be assessed post-mortem, c) development and validation of blood, sweat and pupillary-based biomarkers for objective assessment of TBI. (8) Provide efficient, high quality support services for MTBI2 (formerly CNRM) researchers and collaborators: a) the clinical trials unit, including protocol development, regulatory, and monitoring services; b) informatics, including secure clinical data capture, robust data storage, and rigorous statistical analysis; c) biofluid core, including robust storage, distribution of samples to collaborators, and analyses, including high sensitivity biomarker studies in sweat, saliva and blood; d) program management, including personnel, financial, logistics, safety, and compliance activities.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 309A / *Regenerative Medicine (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
(9) Continuously communicate with stakeholders to refine focus areas, funding priorities, and collaborative opportunities. (10) Focus on improving diversity, equity and inclusion through a series of workshops, readings, and team activities. (11) Disseminate findings of MTBI2 (formerly CNRM) research to military, medical, scientific, and lay communities via in-person events, social media, electronic communications, and peer reviewed publications. (12) Expand MTBI2 (formerly CNRM) funding via external sources to support additional clinical trials, blast exposure studies, prolonged field care activities, and discovery research with a goal of doubling our current total funding by 2030. (13) Define focus areas of next research stage and best funding format for those directions, optimize research teams to support new research projects pending availability of FY23 funding. ***FY 2024 Base Plans:*** FY 2024 plans continue efforts as outlined in FY 2023. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Price adjustment for inflation.					
Accomplishments/Planned Programs Subtotals	10.271	10.833	11.051	0.000	11.051

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• BA-1, 0806721HP: *Uniformed Services University of the Health Sciences*	10.236	-	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

Infrastructure to support the MTBI2 (formerly CNRM) program; and salaries of neuroscience faculty and technical and administrative support personnel.

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 373 / *GDF - Medical Technology Development*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
373: *GDF - Medical Technology Development*	207.753	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

Guidance for Development of the Force - Medical Technology Development provides funds for development of 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. Medical technology development is managed by Joint Program Committees in the following areas: 1- Military Infectious Diseases research is developing protection and treatment capabilities for military relevant emerging infectious diseases and wound infections. 2- Military Operational Medicine research goals are to develop and validate medical countermeasures against operational stressors, prevent physical and psychological injuries during training and operations, and to maximize health, performance and readiness of Service members. 3- Combat Casualty Care research is optimizing survival and recovery in injured Service members across the spectrum of care from point of injury through en route and facilities care.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF – Medical Technology Development	0.000	0.000	0.000	0.000	0.000
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 2023 Plans:*** N/A ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 373 / *GDF - Medical Technology Development*

C. Other Program Funding Summary ($ in Millions)

N/A

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 products into advanced development.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 373A / *GDF - MTD (Combat Casualty Care)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
373A: *GDF - MTD (Combat Casualty Care)*	11.168	15.357	24.519	26.943	0.000	26.943	27.950	28.871	29.810	30.406	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project supports Medical Technology Development (combat casualty care) efforts with the goal of optimizing Warfighter survival and recovery from combat-related injury in current and future operational scenarios for the acute and early management of combat-related trauma, including point of injury, en route, and facility-based care.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Combat Casualty Care	15.357	24.519	26.943	0.000	26.943
Description: Combat Casualty Care medical technology development activities seek to drive medical innovation through development of knowledge and materiel solutions for the management of combat-related trauma. ***FY 2023 Plans:*** Combat Casualty Care medical technology development will continue to focus on developing and transitioning emerging technologies to enable care in the areas of prolonged care, pre-hospital tactical combat casualty care, battlefield traumatic brain injury/neurotrauma, burn injury, and en route care. ***FY 2024 Base Plans:*** Efforts will continue to focus on combat casualty care medical technology development related to developing and transitioning emerging technologies to enable care in the areas of prolonged care, pre-hospital tactical combat casualty care, battlefield traumatic brain injury/neurotrauma, burn injury, and en route care. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase supports combat casualty care technology development to enable combined injury care during joint all domain operations.					
Accomplishments/Planned Programs Subtotals	15.357	24.519	26.943	0.000	26.943

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 373A / *GDF - MTD (Combat Casualty Care)*

C. Other Program Funding Summary ($ in Millions)

Remarks

N/A

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 373B / *GDF - MTD (Military Operational Medicine)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
373B: *GDF - MTD (Military Operational Medicine)*	23.255	23.588	34.150	22.426	0.000	22.426	23.152	23.815	24.492	25.182	Continuing	Continuing

Note

DHA internally realigned $10M per year ($50M over FYDP) from Project 373B to Project 478 in support of the Murtha Cancer Center (APOLLO Project).

A. Mission Description and Budget Item Justification

This project supports medical technology development efforts with the goal of maximizing the health, readiness, and performance of Service members and their families by the development of effective biomedical countermeasures against operational stressors, and prevention and treatment of physical and psychological injuries during training and operations.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Military Operational Medicine	23.588	34.150	22.426	0.000	22.426
Description: Military Operational Medicine medical technology and development efforts focus on the following areas: musculoskeletal injury prevention and treatment; blunt, blast, accelerative, and neurosensory injury prevention & readiness; psychological health and resilience; performance in extreme environments; and optimized cognition and fatigue mitigation.					
FY 2023 Plans: Efforts will focus on military operational medicine medical advanced technology development related to neuromusculoskeletal injury prevention and treatment; optimized performance & sustained medical readiness; performance & health in extreme environments; and psychological health prevention & treatment.					
FY 2024 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 373B / *GDF - MTD (Military Operational Medicine)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Efforts will continue to focus on military operational medicine medical advanced technology development related to neuromusculoskeletal injury prevention and treatment; optimized performance & sustained medical readiness; performance & health in extreme environments; and psychological health prevention & treatment. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease reflects planned technology maturation related to neuromusculoskeletal injury prevention and treatment research.					
Accomplishments/Planned Programs Subtotals	23.588	34.150	22.426	0.000	22.426

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 373C / *GDF - MTD (Medical Simulation & Training/Health Informatics)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
373C: *GDF - MTD (Medical Simulation & Training/Health Informatics)*	12.613	12.729	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

Conduct proof of technological feasibility studies and experiments and/or assessment of operability and producibility to address a military medical need identified through the Joint Capabilities Integration and Development System. Efforts are directed towards prototypes for field experiments and/or tests in a simulated environment, assessment/proof of feasibility or demonstration of utility/cost reduction that support medical simulation to increase military medical personnel's knowledge, skills and abilities to deliver combat casualty care support to manage patient injury and illness and to conduct patient movement from point of injury through role of care four.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Medical Simulation Technologies (Formerly Medical Simulation Technologies & Training/Health Informatics)	12.729	0.000	0.000	0.000	0.000
Description: Studies, investigations, and non-system specific technology effort focus on prototyping tissue models, technologies that simulate medical condition progress over time, technologies that simulate injury, technologies that replicate warfighter bio-physiology, and, technologies that simulate high-fidelity combat casualty care scenarios. Activities will continue to focus on tissue models that accurately simulate the feel, pliability, flexibility, and responsiveness of live tissue; technologies that simulate the degradation or worsening of a medical condition over time, as well as simulate the improvement of a medical condition over time; technologies that simulate injury, especially hemorrhage, fractures, and ocular damage; technologies that accurately reflect warfighter bodily characteristics and are rugged enough to simulate patient care and movement throughout the entire continuum of care; technologies that simulate combat scenarios to provide realistic environments; and, technologies that simulate patient movement through the continuum of care.					
FY 2023 Plans: N/A					
FY 2024 Base Plans: N/A					
FY 2024 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 373C / *GDF - MTD (Medical Simulation & Training/Health Informatics)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A					
Accomplishments/Planned Programs Subtotals	12.729	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 373D / *GDF - MTD (Clinical and Rehabilitation Medicine)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
373D: *GDF - MTD (Clinical and Rehabilitation Medicine)*	13.040	14.619	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

Clinical and rehabilitative medicine activities continue to develop knowledge and materiel products to reconstruct, rehabilitate, and provide care for injured Service member is the areas of neuromusculoskeletal injury, pain management, regenerative medicine, and sensory systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Clinical and Rehabilitation Medicine	14.619	0.000	0.000	0.000	0.000
Description: Clinical and rehabilitation medicine efforts will continue to support clinical trials in neuromusculoskeletal injuries to provide products and information solutions for diagnosis, treatment, and rehabilitation outcomes for Service-related injuries. Develop solutions (knowledge and materiel) for the diagnosis and alleviation of pain, restoration or regeneration of neuromusculoskeletal tissues, and sensory system (ocular) rehabilitation and treatment. ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A					
Accomplishments/Planned Programs Subtotals	14.619	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 373D / *GDF - MTD (Clinical and Rehabilitation Medicine)*

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 373E / *GDF - MTD (Military Infectious Disease)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
373E: *GDF - MTD (Military Infectious Disease)*	6.409	6.470	12.886	13.817	0.000	13.817	13.747	13.659	13.570	13.841	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project supports medical technology development efforts toward the goal of preventing and treating infectious disease threats to eliminate their impacts on operational readiness.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Military Infectious Disease	6.470	12.886	13.817	0.000	13.817
Description: Military infectious disease activities to support efforts (including clinical) to develop innovative therapeutics and delivery technologies for combat wound infections. These efforts include accelerating promising prevention and treatment solutions to emerging infectious diseases (e.g., Dengue, chikungunya, Coronaviruses). ***FY 2023 Plans:*** Will continue to test lead drug candidates in healthy volunteers to determine drug pharmacology, safety, and effectiveness against emerging infectious diseases (EID). Will continue to support wound infections prevention and treatments research. ***FY 2024 Base Plans:*** Efforts will continue to focus on Medical Advanced Technology development related to testing lead drug candidates to determine drug pharmacology, safety, and effectiveness against emerging infectious diseases (EID). Will continue to support wound infections prevention and treatments research. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase supports technology maturation in the area of wound infection prevention and treatments research.					
Accomplishments/Planned Programs Subtotals	6.470	12.886	13.817	0.000	13.817

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 373E / *GDF - MTD (Military Infectious Disease)*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 373F / *GDF - MTD (Radiological Health Effects)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
373F: *GDF - MTD (Radiological Health Effects)*	0.501	0.523	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project supports medical technology development efforts with the goal of pursuing the development of Food and Drug Administration (FDA) approved drugs, biologicals, and diagnostics (e.g., biodosimetry) to increase survival and decrease incapacity after acute radiation exposures.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Radiological Health Effects ***Description:*** Develop in vivo models, assays, and other enabling technologies to support transition of candidate MCM(s) and to reduce risk during advanced development. This efforts will include the identification and characterization of biomarkers to establish novel druggable targets, understanding differences in species sensitivity to radiation, evaluating direct and indirect mechanisms of actions of high and low linear energy transfer (LET) radiation sources (e.g., neutrons, gamma), and, determining radiosensitivity and radioresistance of various systems/organs. ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A	0.523	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals	0.523	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 373F / *GDF - MTD (Radiological Health Effects)*

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 373G / *GDF - MTD (Military Medical Photonics)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
373G: *GDF - MTD (Military Medical Photonics)*	10.000	9.953	10.404	10.612	0.000	10.612	10.824	11.040	11.261	11.486	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project supports Military Medical Photonics applied research with the goal of optimizing Warfighter survival and recovery from combat-related injury in current and future operational scenarios by driving medical innovation through development of knowledge and materiel solutions for the acute and early management of combat-related trauma, including point of injury, en route, and facility-based care.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Military Medical Photonics	9.953	10.404	10.612	0.000	10.612
Description: The Military Medical Photonics Program is an interdisciplinary program of physical and biological scientists, engineers, and physicians addressing diagnostic and therapeutic needs to support combat casualty care. Activities will continue to focus on diagnostic, imaging, and therapeutic studies. Specific efforts include: Photochemical tissue bonding for wound repair, passivation, and vein stiffening for abnormal connections between an artery and a vein; Optical applications for treatment and prevention of wound contamination and scarring, and to support wound healing and cartilage regeneration; Photonics-based diagnostics, including early detection of airway inhalation injury and implantable biomarker sensors; Investigations of photonics technologies to support the prolonged shelf life of human platelets; and Photobiomodulation to affect cognitive function.					
FY 2023 Plans: Will continue research toward the development of diagnostic, assessment and therapeutic solutions to optimize medical care of the Warfighter in current and future battlefield. Materiel and knowledge solutions will focus on innovative capabilities for use in the far forward environment that will cognitively and physically off load the medics in Large Scale Combat operations (LSCO). Focus areas will be cutting edge diagnostics that are of low cube and weight and can be used by minimally trained Warfighters at the point of injury, miniature and rugged imaging capabilities, and novel therapeutics for wound repair, vascular rupture diagnosis and repair. Photonics-based diagnostics will be integrated across the continuum of care, including early detection of airway inhalation injury and implantable biomarker sensors and Photobiomodulation to affect cognitive function.					
FY 2024 Base Plans: Efforts will continue to focus on Medical Advanced Technology development related to development of diagnostic, assessment and therapeutic solutions to optimize medical care of the Warfighter in current and					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 373G / *GDF - MTD (Military Medical Photonics)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
future battlefield. Materiel and knowledge solutions will focus on innovative capabilities for use in the far forward environment that will cognitively and physically off load the medics in Large Scale Combat operations (LSCO). Focus areas will be cutting edge diagnostics that are of low cube and weight and can be used by minimally trained Warfighters at the point of injury, miniature and rugged imaging capabilities, and novel therapeutics for wound repair, vascular rupture diagnosis and repair. Photonics- based diagnostics will be integrated across the continuum of care, including early detection of airway inhalation injury and implantable biomarker sensors and Photobiomodulation to affect cognitive function. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to inflation					
Accomplishments/Planned Programs Subtotals	9.953	10.404	10.612	0.000	10.612

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 373H / *GDF - MTD (Medical Advanced Technology)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
373H: *GDF - MTD (Medical Advanced Technology)*	0.000	0.000	68.016	68.823	0.000	68.823	65.066	64.322	64.330	65.617	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project supports the application of applied research to develop medical advanced technology related to drugs, vaccines, medical devices, diagnostics, medical practices/procedures, and other preventive measures essential to the protection and sustainment of Warfighter health. Research is conducted in the following principal areas: Combat Casualty Care, Military Operational Medicine, and Military Infectious Diseases.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF - MTD (Medical Advanced Technology)	0.000	68.016	68.823	0.000	68.823
Description: Programmatic transfer in accordance with the 711/737 US Army Medical Research and Development Command transfer to Defense Health Agency in support of Medical Systems, Advanced Technology & Development from Army PEs 0603002A & 0603115A. This project supports application of applied research to develop Medical Advanced Technology related to drugs, vaccines, medical devices, diagnostics, medical practices/procedures, and other preventive measures essential to the protection and sustainment of Warfighter health.					
FY 2023 Plans: Efforts will focus on Advanced Technology Development of Medical Technology.					
FY 2024 Base Plans: Efforts will focus on Medical Advanced Technology development of Medical Technology related to Autonomous Care and Evacuation, Aviation Medicine, Brain Trauma, Burn Injury, Combined Injury, Endemic and Emerging Infectious Diseases, En Route Care, Health in Extreme Environments, Neuromusculoskeletal Injury Prevention & Treatment, Psychological Health Prevention & Treatment, Prolonged Care, Tactical Combat Casualty Care, Sustainment of Expeditory Medical Skills, Sustained Medical Readiness, Warfighter Protection & Survivability and Wound Management.					
FY 2024 OCO Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 373H / *GDF - MTD (Medical Advanced Technology)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Increase due to inflation.					
Accomplishments/Planned Programs Subtotals	0.000	68.016	68.823	0.000	68.823

	FY 2022	FY 2023
Congressional Add: N/A	0.000	-
FY 2022 Accomplishments: N/A		
Congressional Adds Subtotals	0.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 378B / *CoE-Breast Cancer Center of Excellence (USUHS))*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
378B: *CoE-Breast Cancer Center of Excellence (USUHS))*	31.076	10.534	11.116	11.339	0.000	11.339	11.566	11.797	12.033	12.274	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Breast Cancer CoE 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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Breast Cancer Center of Excellence	10.534	11.116	11.339	0.000	11.339

Description: Breast cancer is the second leading cause of cancer death in women in the United States. The Readiness and Lethality of the Total Force is based in large part on personnel health. Nearly 20% of the active-duty force is now female, and breast cancer is the number one cancer in active-duty women, far surpassing all other causes of cancer in this population. The Breast Cancer CoE utilizes a multidisciplinary approach for researching breast diseases and breast cancer focused on the military at-risk active-duty population in order to enhance Readiness of The Total Force. This multidisciplinary model integrates prevention, screening, early diagnosis, treatment and continuing care, but the project is further unique in the 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 and pathologically well-characterized tissue repository with advances in biomedical informatics leading to hypothesis-generating discoveries that are then tested in hypothesis-driven experiments.

In addition to the primary achievement of research objectives, the program educates Federal employees as a benefit to the public they serve through Federal service, through support to civil authorities, and in non-Federal professional and academic collaborations.

FY 2023 Plans:

Objective 1: Identify and consent during this cycle and across our tissue source site network a minimum of 100 CBCP patients (to include patients at high risk for development of breast cancer) annually to the MCCRP APOLLO germline sequencing research study, with special focus on active-duty females as a Force Protection / Readiness sustainment issue to the DoD.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 378B / *CoE-Breast Cancer Center of Excellence (USUHS))*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Objective 2: Accrue over 500 patients annually in FY22 to the “core” USU MCCRP/BC-COE (CBCP) protocols by consenting patients at our tissue source and clinical sites, with the main site being the Murtha Cancer Center’s Breast Center at WRNMMC, the military’s largest and only NAPBC (National Accreditation Program for Breast Centers) and Breast Imaging Center of Excellence of the American College of Radiology approved breast center in the entire DoD MHS. Objective 3: Expand USU’s breast tissue acquisition to include more military veterans, by acquiring tissues and enrolling veterans in Breast CoE/MCCRP’s protocols who are receiving care at the VA hospitals in North Texas, Boston, and additional VA hospitals. Acquire through consented protocol acquisitions, over 5,000 specimens annually (neo-plastic and non-neoplastic breast tissues and tumors, lymph nodes, metastatic deposits, blood and its components, bone marrow) on patients with all types of breast disease and cancer with an expanded focus on active duty, younger women, and veterans and being able to perform deeper research into the unique aspects of breast cancer risk, development, and outcomes in younger women versus older women. Objective 4: Bank these biospecimens in the USU MCCRP’s BC-COE Biorepository as the foundation for all molecular analyses carried out in USU MCCRP’s BC-COE labs, as outlined in the USU MCCRP’s BC-COE Core Protocols. Utilize this repository as the basis for intramural and extramural collaborations for secondary usage research. Objective 5: Because of the expansion into VA sites and as an extension of the continued modernization of our world-class biobank, develop additional new quality assurance programs and standard operating procedures for the Tissue Bank regarding these new elements and sites from the VA and others including conducting biospecimen science research. There are 7 subtasks (all are ongoing tasks as part of the biobanking activities): 1) Incorporate the Standard PREanalytical Code (SPREC) into our daily tissue banking activities. 2) Temperature Validation Mapping 3) Sample Quality Assessment 4) Accreditation by CAP and ongoing re-inspection 5) Develop and implement a disaster plan 6) Biospecimen Science Research 7) Establishing evidence based Standard Operating Procedures (SOPs) and new collection methods Objective 6: Conduct integrative profiling research, for protein-expression based, clinically relevant breast cancer stratification. There are 4 subtasks (Ongoing for incoming samples): 1) Active case IHC assays of a panel of 20 IHC biomarker 2) IHC assays of a panel of 27 biomarkers named Connectivity Map 3) High Density TMA analysis of biomarkers associated with the development of endocrine resistance 4) Mass spectrometry-based -omics analysis of Breast Cancer of selected subtypes					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 378B / *CoE-Breast Cancer Center of Excellence (USUHS))*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Objective 7: Breast cancer studies focused on two special patient groups bearing poor outcomes, who are enriched in the military active-duty military population: young women, and African American women. There are 3 subtasks (Ongoing): 1) Determination of factors affecting breast cancer etiology and outcome in special populations 2) Is young age of diagnosis an independent predictor for the outcome of invasive breast cancer? 3) Integrative comparative analysis of breast cancer in African American and Caucasian American women Objective 8: Focus on samples from female veterans and female active-duty service members with breast cancer, perform new heterogeneity studies, including cellular heterogeneity of tumor development environment and lineage heterogeneity within one physical cancer tumor. There are 3 subtasks (Ongoing): 1) Breast Cancer Immunome 2) Identification of molecular factors in tumor epithelium and stroma contributing to tumor etiology 3) Breast cancer tumor heterogeneity study through sequencing analysis Objective 9: Studies on mechanistic understanding of breast cancer development from other perspectives, including genetic dispositions, exposure to environmental risks, access to healthcare, and impact of certain lifestyle factors as well as comorbidities. There are 3 subtasks (Ongoing): 1) Evaluation of the effect of environmental exposures on breast cancer risk and outcomes 2) Identification of patients with hereditary breast cancer 3) Development of lifestyle modification programs for active duty and military dependents to increase cancer prevention and survivorship Objective 10: Breast cancer HER2 Targeted Therapy Optimization (Ongoing) Objective 11: With the new addition of VA hospital sites for breast tissue collections and clinical data collation under research protocols, create an informatics infrastructure system to support these new needs of BC-COE research. There are 3 subtasks: 1) Develop the Data Tracking System (DTS) to track clinical research and scientific research activities. 2) Develop and improve data QA programs and SOPs (Ongoing) 3) Re-develop the Data Warehouse for Translational Research using current technologies and by integrating data generated by internal scientists, through collaborations, and those available in the public as needed, to facilitate integrative data analysis (Ongoing). Objective 12: Analysis of the publicly available TCGA, CPTAC, and other large scale cancer study datasets (Ongoing). 1) Continue to use the public data where appropriate to support the internal research projects, for example by validating the internal findings.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 378B / *CoE-Breast Cancer Center of Excellence (USUHS))*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
2) Continue to use the public data for hypothesis generation, and validation of the findings using independent datasets from the public or internal projects. Example projects including, gene signature development, treatment data analysis, and follow-up data analysis. ***FY 2024 Base Plans:*** Continuation of objectives from FY 2023. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Pricing adjustment for inflation.					
Accomplishments/Planned Programs Subtotals	10.534	11.116	11.339	0.000	11.339

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 379B / *CoE-Gynecological Cancer Center of Excellence (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
379B: *CoE-Gynecological Cancer Center of Excellence (USUHS)*	27.167	9.201	9.719	9.913	0.000	9.913	10.111	10.313	10.519	10.728	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Gynecologic Cancer Center of Excellence (GYN-COE) utilizes a program project type of strategy with overarching objectives to advance knowledge, prevention strategies, companion biomarkers and assays, treatments and interventions across the continuum of care in gynecologic oncology. Our twelve program projects run in parallel rather than in sequence with advances implemented over five years rather than 12 months. Some subprojects target discovery investigations and mechanistic studies whereas others focus on clinical evaluations, population studies and further development leading to deployment. The introduction of new subprojects and maturation of other subprojects allows the GYN-COE to continue to emphasize military and clinical relevance, prioritize bench to bedside translation, and infuse in advances in science, medicine and technology to meet our objectives.

The Gynecologic Cancer Center of Excellence (GYN-COE) is an integrated translational research program aimed at development of companion biomarkers and assays, clinical decision support tools, risk assessment algorithms, quality improvement initiatives, treatments, and interventions for patients with gynecologic tumors and cancers, among a growing proportion of active duty women in the Armed Services, veteran and retired populations. Molecular profiling of pre-cancerous and malignant lesions has also enabled development of diagnostic and chemo-preventive interventions across the most common pathologic uterine conditions, rare variants, and the aggressive and deadly metastatic and recurrent malignancies that affect women and corresponding readiness. The GYN-COE has been the leading research program in the U.S. to identify clinical features, biologic etiologies, and social determinants underlying racial and ethnic disparities in gynecologic cancers using population based as well as translational research methods. The GYN-COE program features both the largest tissue laser capture microscopy facility as well as the most robust mass spectrometry-based proteomics facility in the DoD, enabling the program to assess the generalized relevance of GYN-COE discoveries in other cancers that impact service members and readiness. The comprehensive research program supports the training of subspecialty gynecologic oncology surgeons, a fellowship program that has trained advanced pelvic surgeons to support wartime efforts for the past 50 years. The program also educates and trains medical students, interns and residents in women's health, telemedicine, wellness, wound-healing, hemorrhage, infections, pain management, resistance, resilience, palliative care and evidence-based medicine. The program has partnered with the National Cancer Institute in its educational and investigative activities over the past 20 years becoming a pillar program for the Murtha Comprehensive Cancer Center and the Uniformed Services University. The GYN-COE has also strengthened cancer capabilities, advanced the federal precision oncology initiatives, contributed to the COVID-response, enabled delivery of equitable care to female service members, veterans and beneficiaries, and ensured readiness of the female fighting force by addressing their gender-specific medical conditions.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Gynecological Cancer Center of Excellence	9.201	9.719	9.913	0.000	9.913

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 379B / *CoE-Gynecological Cancer Center of Excellence (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Description: The Gynecological Cancer Center of Excellence focuses on characterizing the molecular alterations associated with benign and malignant gynecological disease and facilitates the development of novel early detection, prevention and novel biologic therapeutics for the management of gynecological disease. The GYN-COE leverages innovative research to enhance gynecologic cancer care from prevention to survivorship for service members, beneficiaries, and the civilian population. • To use extraordinary analytical capabilities in sample preparations combined with micro-scaled proteogenomic analysis for development of companion diagnostics, theragnostics, prognostics and prediction models for provision of precision medicine to GYN cancer patients as well as agnostically to all patients through pan-cancer discovery. • The throughput of our analytical facility will open up opportunities to expand our capabilities for proteogenomic tissue profiling of biopsy sized specimens to support ancillary studies of drug response and resistance in clinical trial patients aimed at repurposing of FDA-approved drugs for pan-cancer treatment in partnership with public, private, and industry organizations. • Use of our technologies to support proteogenomic characterization of the world's most rare and yet most clinically devastating diseases in partnership with the Joint Pathology Center. • Deployment of our analytical expertise to support research involving COVID related threats, combat related disorders, and behavioral health disorders, such as PTSD and others that are prevalent in retired veterans. • To expand our racial disparities research using the PAIRED consortium to support investigation of any cancer type or other disease for which there are worse outcomes in minority populations. • To provide undergraduate and graduate medical training in advanced pelvic surgery and complex gynecologic conditions within the context of a specialized fellowship in gynecologic oncology that produces physician scientists fluent in the latest advances of precision medicine for gynecologic cancer patients • Continue to serve as the comprehensive cancer center for gynecologic oncology clinical trial patients of the National Institutes of Health and veterans from regional VA facilities ***FY 2023 Plans:*** Will advance optimization and deployment of companion assays, clinical support tools and predictive analytics to improve racial and cancer health equity, military readiness, capabilities, efficiency, and outcomes. ***FY 2024 Base Plans:*** Will continue efforts from FY 2023. ***FY 2024 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 379B / *CoE-Gynecological Cancer Center of Excellence (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Pricing adjustment for inflation.					
Accomplishments/Planned Programs Subtotals	9.201	9.719	9.913	0.000	9.913

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 381 / *CoE - Integrative Cardiac Health Care (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
381: *CoE - Integrative Cardiac Health Care (USUHS)*	7.609	1.684	1.809	1.875	0.000	1.875	1.943	1.982	2.022	2.062	Continuing	Continuing

A. Mission Description and Budget Item Justification

The USUHS Military Cardiovascular Outcomes Research (MiCOR) program was established in FY 2019 (formerly the Integrative Cardiac Health Care). Its mission is to:
1. Address the gaps identified in the Cardiovascular Care Initial Capabilities Document (ICD) (CRM-2017.03.23)
2. Enhance the cardiovascular health and well-being of the Warfighter and the DoD community through innovative clinical research using precision techniques.
3. Identify precision strategies for early detection, monitoring, and reduction of preclinical/clinical cardiovascular disease and related chronic disease risks for improved clinical outcomes.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Integrative Cardiac Health/Military Cardiovascular Outcomes Research	1.684	1.809	1.875	0.000	1.875
Description: USUHS is a "central focal point for health-related education and training, research and scholarship, and leadership support to operational military units around the world" and is the ideal engine to establish a strategic partnership to address cardiovascular health. ***FY 2023 Plans:*** -Continue enrollment and conduct of study schedules for the six studies in the active phase. -Finalize analysis on the four studies in the post completion stage. Disseminate results accordingly to high impact journals. -Complete regulatory tasks (IRB, agreements, protocol development, etc.) for remaining studies in order for those studies to enter the active research phase. -Convene national committee of experts to formulate "Guidelines for the Cardiovascular Care of the Tactical Athlete" in collaboration with DHA, American Heart Association, and the American College of Cardiology. Tactical athletes include active duty military, astronauts, police officers, and firefighters. -Perform machine learning on 1,000,000 legacy electrocardiograms linked with MDR to identify novel biomarkers of cardiac risk. -Publish analysis of 5,000 sleep polysomnograms for evaluation of electrocardiographic biomarkers as predictors of death. ***FY 2024 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 381 / *CoE - Integrative Cardiac Health Care (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
FY 2024 plans continue efforts as outlined in FY 2023. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Pricing adjustment for inflation.					
Accomplishments/Planned Programs Subtotals	1.684	1.809	1.875	0.000	1.875

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 382B / *CoE-Pain Center of Excellence (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
382B: *CoE-Pain Center of Excellence (USUHS)*	8.523	1.965	2.084	2.156	0.000	2.156	2.230	2.277	2.327	2.374	Continuing	Continuing

A. Mission Description and Budget Item Justification

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. The mission of the Pain CoE is to support provision of world-class clinical pain services and operational anesthesia in the Military Health System, provide education on all aspects of pain management, coordinate and conduct Institutional Review Board-approved clinical research and Institutional Animal Care and Use Committee-approved basic laboratory and translational pain research, and serve as the advisory organization for developing an enterprise-wide pain policy for the Military Health System. In FY 2015, management of the Pain CoE was transferred from the Army to USUHS.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Pain Center of Excellence (USUHS)	1.965	2.084	2.156	0.000	2.156
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 its impact on rehabilitation and recovery. The center also supports knowledge translation activities that are aimed at integrating research findings into military medicine clinical practice and policy. In addition to the primary achievement of research objectives, the program educates Federal employees as a benefit to the public they serve through Federal service, through support to civil authorities, and in non-Federal professional and academic collaborations. ***FY 2023 Plans:*** 1. Conduct implementation science research, provide subject matter expert support for a diverse portfolio of DoD/DHA pain management/opioid safety activities and initiatives, and facilitate the development of evidence-based policies. 2. Support innovative research by continuing recruitment into the robust Pain Registry Biobank at both of its sites and conducting research that leverages PASTOR/PROMIS outcomes. 3. Conduct rigorous research that supports healthcare optimization and equity in pain management and analgesia. This includes collaborative studies with partners across civilian, VA, and military institutions. Studies expand across several aspects of pain management and analgesia pathways.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 382B / *CoE-Pain Center of Excellence (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
4. Continue to conduct several studies aimed at evaluating anesthesiology and pain management training, workforce readiness, and career sustainment within medical school, residency, and practice settings. 5. Provide functional support to integrate PASTOR at all remaining MTF pain management specialty clinics. 6. To conduct a study examining whether early treatment with NMDA-antagonist ketamine will decrease the likelihood of the development of chronic pain and PTSD using a mouse model. 7. Engage in many service activities to support research training and development for USU medical students, DoD residents, and DHA providers. These activities included mentoring USU Capstone students, resulting in many posters and publications; expanding implementation of a residency research program beyond current efforts at Walter Reed National Military Medical Center (WRNMMC) to all ANE GME sites; advising Anesthesiology residents and faculty on their research projects; and providing support for research development for military anesthesiologists. ***FY 2024 Base Plans:*** FY 2024 plans continue efforts as outlined in FY 2023. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Pricing adjustment for inflation.					
Accomplishments/Planned Programs Subtotals	1.965	2.084	2.156	0.000	2.156

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 383A / *CoE-Prostate Cancer Center of Excellence (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
383A: *CoE-Prostate Cancer Center of Excellence (USUHS)*	24.806	8.417	8.870	9.047	0.000	9.047	9.228	9.413	9.600	9.792	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Center for Prostate Disease Research (CPDR) is DoD designated Prostate Cancer Center of Excellence (CoE) conducting interdisciplinary translational cancer research program of the Murtha Cancer Center, Department of Surgery, Uniformed Services University of the Health Sciences (USUHS), and the Walter Reed National Military Medical Center (WRNMMC). The CPDR conducts state-of-the-art clinical, translational and epidemiological research with an emphasis on precision medicine to enhance the readiness of active-duty personnel in conjunction with the continuum of medical care for military retirees and beneficiaries. Ground-breaking discoveries through strong academic and clinical research (e.g., 30 yrs. and over 450 publications) have led to major advances in translational prostate cancer research and treatment. The CPDR integrates expertise of urologic and medical oncologists, cancer biologists, genitourinary pathologists, epidemiologists, biostatisticians, medical technologists, research nurses, patient educators, and program management specialists. All these areas of expertise provide state-of-the-art resources for in-house and collaborative research in prostate cancer. The CPDR enriches the training of the next generation of physicians/scientists who directly benefit the quality, outcomes, and stability of the military health care delivery system.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: CoE-Prostate Cancer Center of Excellence (USUHS)	8.417	8.870	9.047	0.000	9.047
Description: The Prostate Cancer Center of Excellence is at the forefront of “cutting-edge” translational, clinical, and epidemiologic prostate cancer research. The emphasis is on improving prevention, diagnosis, prognosis and treatment of prostate cancer involving new modalities such as MRI guided biopsy, gene-based biomarkers, and precision medicine strategies targeting cancer-causing alterations in prostate cancer. The CoE multi-center database (WRNMMC, NMCSD, BAMC, MAMC, TAMC) is a unique programmatic resource, enrolling over 30,500 DoD health care beneficiaries with longitudinal follow up to 30 years. Research from the Prostate CoE highlights genetic and genomic racial/ethnic differences, discovery of novel prognostic markers, treatment outcomes, and new insights into quality of life. The Prostate CoE’s health disparity research focus has uniquely benefited from studying prostate cancer patients in the DoD with high representation of African American men, in an equal-access military health care system. The CoE has been credited for the discovery of the frequent overexpression of the most common prostate cancer driver gene, ERG, the development of urine and tissue assays to detect ERG; the discovery of tumor genomic differences between African American and Caucasian American patients; and the discovery of inherited gene mutations that drive aggressive prostate cancers of African American men. The Prostate CoE’s					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 383A / *CoE-Prostate Cancer Center of Excellence (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
state-of-the-art research infrastructure and framework is providing education and training for over 100 next generation physicians, scientists, medical and graduate students within DoD medical institutions. ***FY 2023 Plans:*** • New initiatives planned for FY 2023 under the MCC cooperative efforts include the development of a centralized imaging and pathology review capability and to develop tumor boards for prostate cancer treatment integrating DoD prostate cancer treatment sites and the Joint Pathology Center under the guidance of the CoE's-Clinical Research Program. • New aspects of the CoE's Epidemiology research will include enhanced data mining capabilities and outcome research for improving the rehabilitation of active-duty service members. • The CoE's-Clinical Research Program, will continue to enhance the multidisciplinary research on prostate cancer screening, data collection, clinical diagnosis, and treatment, education, and counseling, in a personal- and patient-oriented manner. • The Clinical Research program will continue the highly successful collaborations with NCI-Medical Oncologists focusing on new treatments and patient consultation on advanced disease. • The CoE will broaden the spectrum of clinical trials introducing new trials for advanced prostate cancer patients, patients on active surveillance and new imaging technologies. The CoE will continue clinical trials for immunotherapy, cancer vaccine, screen, and prevention-focused clinical trials. • The Clinical Program will continue consenting patients and collecting serum, urine, tissue specimens and clinical follow up data through the integrated MCC biospecimen banking program and the CoE's multicenter national database (WRNMMC, NMCSD, BAMC, MAMC, TAMC). • The CoE's-Translational Research Program, integrated under the Cancer Moonshot APOLLO program, will continue the discovery of prostate cancer-causing gene defects with a special focus on health disparities. • The program will continue developing biomarkers that equally perform in African American and Caucasian American patients. • The CoE's-Translational Research Program will leverage the ground-breaking discovery of African ancestry-related inherited mutations associated with the development of aggressive prostate cancer. The CoE's research in FY23 will focus on formulating clinical-grade genetic tests. • The CoE will initiate new research for understanding the mechanisms and roles of environmental exposure in prostate cancer initiation and progression including radiation, chemical carcinogens, infection and disruption in circadian rhythm and the role of immunology and cytokines. • The CoE's-Translational Research Program will refine new therapeutic molecules developed by the CoE or collaborators, for the treatment of advanced prostate cancer.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 383A / *CoE-Prostate Cancer Center of Excellence (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
• The CoE's-Translational Research Program will complete the first phase of introducing artificial intelligence (AI) for the diagnosis and prognosis of prostate cancer in whole-mounted prostate specimens in collaboration with the Joint Pathology Center and NCI. ***FY 2024 Base Plans:*** FY 2024 plans continue efforts as outlined in FY 2023. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Pricing adjustment for inflation.					
Accomplishments/Planned Programs Subtotals	8.417	8.870	9.047	0.000	9.047

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 478 / *Applied Proteogenomics Organizational Learning and Outcomes (APOLLO) Consortium (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
478: *Applied Proteogenomics Organizational Learning and Outcomes (APOLLO) Consortium (USUHS)*	51.443	18.083	19.058	29.480	0.000	29.480	29.870	30.267	30.672	31.085	Continuing	Continuing

Note

Murtha Cancer Center (APOLLO Project):

DHA internally realigned $10M per year ($50M over FYDP) from Project 373B to Project 478 in support of the Murtha Cancer Center Applied Proteogenomics Organizational Learning and Outcome (APOLLO Project), to accelerate and broaden the successful research efforts in the development of new cancer treatments.

A. Mission Description and Budget Item Justification

DoD Cancer Moonshot - Applied Proteogenomics Organizational Learning and Outcomes (APOLLO) Consortium (USUHS)

DoD's Cancer Moonshot requirement is a mission of the Murtha Cancer Center (MCC) at USUHS under the authority of a tri-federal Memorandum of Agreement signed July 2016 by the Acting Assistant Secretary of Defense for Health Affairs (DoD), the Under Secretary of Health, Department of Veterans Affairs (VHA), and the Acting Director of the National Cancer Institute (NIH), for a tri-federal program of Clinical Proteogenomics Cancer Research. DoD's Cancer Moonshot promotes readiness and mission accomplishment of the active duty service member (ADSM) force, as well as military beneficiaries, retirees, and veterans. There are about 1,000 ADSMs who are stricken with a new cancer diagnosis annually, and MCC serves as the DoD's Health Affairs-approved Center of Excellence for cancer care and research for these ADSMs. MCCRP's mission is to bring translational cancer research to all patients in order to improve their health and mission performance, and to help prevent, screen, detect, and treat cancer; minimize side effects of cancer treatments; and return to duty ADSMs stricken with cancer, as well as all other DoD beneficiaries. DoD's Cancer Moonshot initiative allows for the provision of state-of-the-art molecular analysis of tumors and blood of cancer patients which will result in increased force readiness through more targeted treatment of cancers with fewer side effects, as well as better screening for cancer risk and development.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: DoD Cancer Moonshot - Applied Proteogenomics Organizational Learning and Outcomes (APOLLO) Consortium (USUHS)	18.083	19.058	29.480	0.000	29.480

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 478 / *Applied Proteogenomics Organizational Learning and Outcomes (APOLLO) Consortium (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Description: DoD's Cancer Moonshot at USU's Murtha Cancer Center Research Program MCCRP) is a research program consisting of two overall projects, the first known as APOLLO (Applied Proteogenomics Organizational Learning and Outcomes), and the second as DoD Framingham. APOLLO is a novel high-throughput molecular analysis of every DNA (gene), RNA, and protein expression molecule in cancer patient tumors. Such analysis has never been done on a large scale across multiple cancer types, and small pilot studies demonstrate that the APOLLO project will result in unprecedented findings across all types of cancer (with specific focus on cancers of the greatest threat to ADSMs). These new findings will be identified by using state-of-the-art tissue collection procedures in the operating rooms of all patients undergoing cancer surgery at MCCRP collection protocol sites (e.g. Walter Reed, NMMC; NMC Portsmouth; NMC San Diego; Womack AMC; Keesler AFB) and, then, sequencing the entire DNA genome and RNA sequence at USUHS, while analyzing the entire protein expression profile of these same cancers in MCCRP's Proteomics Laboratory, as well as other affiliated protein laboratories. The vast molecular data that will be derived from these analyses (in the terabyte and petabyte range and beyond) will be linked to clinical patient data as well as treatment outcomes data. These combined data sets will be housed in National Cancer Institute (NCI) secure cloud-based servers with restricted access for analytics by teams of bioinformatics experts (i.e., from government, university, and corporate entities) across the United States working on this endeavor. This complete bio molecular (global) expression profiling of thousands of cancers of all types seen in military treatment and other facilities will predictably result in a myriad of new discoveries regarding the way cancers develop, progress, respond to treatment, evade treatment, and spread. It also will result in new ways to combat cancers and minimize side effects of cancer treatment, as well as identify novel cancer screening and prevention opportunities, while focusing on militarily-relevant cancers and ADSMs with cancer, distinguishing it from any effort that might develop in the future in a civilian organization, as none of this scale exists today. There are now 8 specific APOLLO sub-projects, which are classified based on the organ type of cancer under study: APOLLO 1 = Lung cancer - 10th Highest Cause of Cancer in Active Duty; APOLLO 2 = Gynecological cancer - 12th Highest Cause of Cancer in Active Duty; APOLLO 3 = Prostate cancer - 3rd Highest Cause of Cancer in Active Duty; APOLLO 4 = Breast cancer - 5th Highest Cancer in Active Duty; and APOLLO 5 = prospectively-collected VA, DoD, and NCI specimens and data for all organ sites, APOLLO 6: Pancreatic Cancer - 13th Highest Cause of Cancer in Active Duty and APOLLO 7 : Testicular Germ Cell Tumors - Highest Cause of Cancer in Active Duty and APOLLO 8 Glioblastoma the 7th highest cause of Cancer in Active Duty.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 478 / *Applied Proteogenomics Organizational Learning and Outcomes (APOLLO) Consortium (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
In addition to the primary achievement of research objectives, the program educates Federal employees as a benefit to the public they serve through Federal service, through support to civil authorities, and in non-Federal professional and academic collaborations. ***FY 2023 Plans:*** Specifically, the APOLLO project will collect, process, and analyze cancer specimens from patients who have been diagnosed with cancer or at risk for cancer and who are eligible for and have consented to the protocols. All MCCRP tissue source sites will be utilized which include 8 MTFs and MEDCENS in the MHS, as well as 3 VA sites and one civilian site. Active duty service members diagnosed with cancer at these MHS locations will be preferentially prioritized for offers of enrollment in APOLLO in order to make sure the DoD is providing state-of-the-art research and clinical translational care opportunities to our active duty force to maintain and sustain the highest level of Readiness. The program will complete the following tasks: Task 1: Patients will be recruited and consented for this APOLLO protocol after being successfully recruited into and following the established procedures for the protocols: Establishment of a Tissue Repository for the Murtha Cancer Center Biobank (MCCB), Tissue and Blood Library Establishment for Molecular, Biochemical, and Histologic Study of Breast Disease, and Creation of a Blood Library for the Analysis of Blood for Molecular Changes Associated with Breast Disease and Breast Cancer Development. Task 2: Clinical data collection and quality assurance will follow the established procedures for the sample and data collection protocols. In addition, data may be obtained for the APOLLO study from the DoD Central Tumor Registry (OncoLog) or from the electronic medical records of APOLLO study participants. Task 3: Clinical pathologic slide imaging data will be collected for APOLLO study participants. Clinical pathologic slide imaging data will undergo quality assurance and de-identification procedures at WRNMMC and all other enrolling MTFs and MEDCENs. Task 4: Quality assurance and annotation of samples: The Joint Pathology Center (JPC) will continue to serve as the research pathology annotation center for the APOLLO project for the purpose of annotating pathological diagnoses, expanding pathologic characteristics of samples, and reviewing pathology data variables as defined in this protocol. Task 5: Genomic and proteomic profiling of samples will continue to be conducted by The American Genome Center (TAGC) at the USUHS in Bethesda, MD and the Murtha Cancer Center Research Program's Clinical Proteomics Platform (CPP) Consortium associated with the Gynecologic Cancer Center of Excellence (GYN-					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 478 / *Applied Proteogenomics Organizational Learning and Outcomes (APOLLO) Consortium (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
COE) at Inova Health System in Fairfax, VA and its associated laboratories at Northwestern University in Evanston, IL and Vanderbilt University in Nashville, TN. Task 6: Coded proteogenomic profiling (molecular) and sample sequencing data along with associated coded clinical data will continue to be transferred to an intermediate NCI protected server ("Jamboree site") and/or an NCI-approved government "Wiki" site at the NCI, and ultimately to the Genomic Data Commons (GDC) and Proteomic Data Commons (PDC). This same data will be securely transferred to certain partners who are assisting in performing integrative analyses of complex DNA, RNA, protein, and clinical data sets and/or in developing bioinformatics tools to do the same. Task 7: APOLLO 8 (7th Highest Cause of Cancer in Active Duty): Research on Malignant Brain Tumors (REMBRANT) Perform comprehensive neuropathologic examination of the available military glioblastoma (GBM) cases, and any available ante-mortem neurosurgical material for each decedent in the study. Perform genetic and proteomic characterization of the available military GBM cases to investigate potential associations with clinical outcomes. ***FY 2024 Base Plans:*** Continuation of above efforts from FY 2023. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Pricing adjustment for inflation.					
Accomplishments/Planned Programs Subtotals	18.083	19.058	29.480	0.000	29.480

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 479 / *Framingham Longitudinal Study (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
479: *Framingham Longitudinal Study (USUHS)*	14.586	4.765	5.018	5.118	0.000	5.118	5.220	5.324	5.430	5.539	Continuing	Continuing

A. Mission Description and Budget Item Justification

DoD Cancer Moonshot Program - DoD Framingham

DoD's Cancer Moonshot requirement is a mission of the Murtha Cancer Center (MCC) at USUHS under the authority of a tri-federal Memorandum of Agreement signed July 2016 by the Acting Assistant Secretary of Defense for Health Affairs (DoD), the Under Secretary of Health, Department of Veterans Affairs, Veterans Health Administration (VHA), and the Acting Director of the National Cancer Institute (NIH), for a tri-federal program of Clinical Proteogenomics Cancer Research. DoD's Cancer Moonshot promotes readiness and mission accomplishment of the active duty service member (ADSM) force, as well as military beneficiaries, retirees, and veterans. There are about 1,000 ADSMs who are stricken with a new cancer diagnosis annually, and MCC serves as the DoD's Health Affairs-approved Center of Excellence for cancer care and research for these ADSMs. MCC's mission is to bring translational cancer research to all patients in order to improve their health and mission performance, and to help prevent, screen, detect, and treat cancer; minimize side effects of cancer treatments; and return to duty ADSMs stricken with cancer, as well all other DoD beneficiaries. DoD's Cancer Moonshot initiative allows for the provision of state-of-the-art molecular analysis of tumors and blood of cancer patients which will result in increased force readiness through more targeted treatment of cancers with fewer side effects, as well as better screening for cancer risk and development.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: DoD Cancer Moonshot Program - DoD Framingham Longitudinal Study	4.765	5.018	5.118	0.000	5.118
Description: DoD Framingham is a novel project that is enabled by the blood serum specimens stored at the DoD Serum Repository (DoDSR) at the Armed Forces Health Surveillance Branch (AFHSB) in Silver Spring, Maryland. This facility stores blood serum drawn from over 10 million ADSMs who were required to undergo mandatory semiannual blood testing for the last 25 years, resulting in this repository with over 65 million blood serum specimens. MCC tumor registry data, which includes every ADSM who developed cancer while on active duty, is matched to data in the Serum Repository. This allows MCC to identify the blood serum of ADSMs who ultimately develop cancer at key times, i.e., before they had cancer, during their cancer treatment, and after their successful cancer treatment. Four different serum specimens (two before, one during, and one after cancer diagnosis and treatment) from every ADSM who developed certain types of cancer over a ten-year period of time are then sent to the Nation's foremost protein identification (mass spectroscopy) center, i.e., the Pacific Northwest National Laboratory (PNNL) run by the Department of Energy (DOE). This enables identification of the entire proteome circulating in the blood serum of these cancer patients before, during, and after cancer diagnosis. Comparing the proteomes will allow for identification of new protein biomarkers and indicators of					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 479 / *Framingham Longitudinal Study (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
treatment response and failure both of individual patients and across all patients with a specific type of cancer. Smaller studies of this nature done by MCC researchers have proven that this is an effective strategy to identify novel diagnostic and treatment protein expression biomarkers that can be assayed in new blood tests for cancer. This project will do it “at scale”, i.e. in large numbers of active duty cancer patients (who are otherwise healthy and therefore do not have the “confounding” protein markers of old age, diabetes, and other medical issues). By using serums that go back many years before the ADSM was diagnosed with cancer, the earliest markers of cancer that will be identified, and assays will be performed by another U.S. governmental agency with the best protein detection and analysis tools in the world. Eight specific DoD Framingham sub-projects, classified based on the organ type of cancer, will be conducted: Framingham 1 = Oropharyngeal cancer; Framingham 2 = Lymphoma; Framingham 3 = Melanoma; Framingham 4 = Pancreatic cancer; Framingham 5 = Metastatic Cancer to Bone (of any type); and Framinghams 6 through 8 subtypes will be determined by MCC and NCI experts in the coming months. ***FY 2023 Plans:*** Specifically, the program will perform the following tasks. Task 1: The Department of Defense (DoD) Joint Pathology Center’s (JPC) Automated Central Tumor Registry (ACTUR) and OncoLog systems will be queried for patients with the identified cancer subject. Task 2: JPC will send the list of approximately 150 identified cancer patients to the AFHSB in order to requisition their sera. Sera from the year of diagnosis, two years pre-diagnosis, four years pre- diagnosis, and two years post-diagnosis will be requisitioned. Each of the 150 patients with identified cancer will be matched by age and sex to 150 controls who were cancer-free for the duration of their active component service, as well as free of autoimmunity, transplant, or immune suppression. Four longitudinal sera samples from each control will be requisitioned to correspond to the time points of the case sera. Task 3: The approximately 150 identified cancer subjects and 150 matched controls, each with up to four longitudinal serum samples for each Framingham project (for a total of about 1,200 serum samples for each Framingham project), will be sent to Pacific Northwest National Laboratory (PNNL) for comprehensive discovery-based quantitative proteomics measurements using the advanced LC-MS/MS platforms established at PNNL. Task 4: Dissemination of data to analysts at the PNNL and in conjunction with Murtha Cancer Center Research Program (MCCRP) at USUHS, who will perform at PNNL statistical analysis by the PNNL Bioinformatics team to examine whether any of the target peptides or group of peptides can be distinguished between the patients and their matched controls for each specific aim of this study. ***FY 2024 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 479 / *Framingham Longitudinal Study (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Continuation of FY 2023 plans. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Pricing adjustment for inflation.					
Accomplishments/Planned Programs Subtotals	4.765	5.018	5.118	0.000	5.118

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 499 / *MHS Financial System Acquisition (DHA)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
499: *MHS Financial System Acquisition (DHA)*	37.702	5.792	6.051	6.092	0.000	6.092	6.143	6.266	6.388	6.516	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Defense Health Program (DHP) appropriations' distribution and execution of funding is currently dispersed amongst multiple, disparate accounting systems, which is in direct conflict with Financial Improvement Audit Readiness (FIAR) guidance prioritizing the standardization of financial management systems and business processes. Currently DHP Funding is distributed and executed across three disparate systems.

The current Defense Health Agency (DHA) structure hinders the overarching goal for audit ready initiatives and agency standard financial business processes. The identified solution for DHA to meet these challenges is to deploy a single operational financial management system (FMS) with minimal mission and business impact. DHA is researching a system that will accommodate standard and medically-required business processes. The goal is to transition financial operations to a platform that allows for consistency across the DHA, establishing standardized processes, data collection, and reporting.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: MHS Financial System Acquisition	5.792	6.051	6.092	0.000	6.092
Description: The goal is to transition all Direct Care DHP funds to a single financial system that allows for consistency across the Defense Health Agency and Military Health System, enabling standardized processes, data collection, and reporting. ***FY 2023 Plans:*** Funding will be used for GFEBS deployment to the Air Force Medical Service (AFMS) and the development of an interface between GFEBS and CON-IT, the Air Force contract writing system. ***FY 2024 Base Plans:*** Complete AFMS GFEBS deployment activities and future GFEBS system enhancements. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Pricing adjustment for inflation.					
Accomplishments/Planned Programs Subtotals	5.792	6.051	6.092	0.000	6.092

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 499 / *MHS Financial System Acquisition (DHA)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• BA 3: *PE 0807721 Replacement & Modernization*	0.000	3.000	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 506 / *Health Research for Improved Medical Readiness and Healthcare Delivery (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
506: *Health Research for Improved Medical Readiness and Healthcare Delivery (USUHS)*	23.045	11.022	11.631	11.883	0.000	11.883	12.141	12.384	12.632	12.885	Continuing	Continuing

A. Mission Description and Budget Item Justification

The “Health Research for Improved Medical Readiness and Healthcare Delivery” program at USUHS answers fundamental questions of importance to the military mission of the Department of Defense in five (5) distinct portfolio areas: health services research, global health engagement, precision medicine, women’s health, and infectious disease clinical research.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Health Research for Improved Medical Readiness and Healthcare Delivery	11.022	11.631	11.883	0.000	11.883
Description: The “Health Research for Improved Medical Readiness and Healthcare Delivery” program at USUHS answers fundamental questions of importance to the military mission of the Department of Defense in five (5) distinct portfolio areas: health services research, global health engagement, precision medicine, women’s health, and infectious disease clinical research. Portfolio 1: The mission of the Center for Health Services Research (CHSR) supports the readiness of America’s Warfighter and improved health outcomes for the military community by building capacity throughout the Military Health System (MHS) to conduct health services research that supports MHS goals, the Department of Defense’s (DoD’s) mission and the national security strategy. The program will address the lack of system-wide health care evidence to support policy and decision making and insufficient health services research capability to analyze MHS data for building a ready force, protecting and treating the warfighter, and providing efficient, effective, quality and safe healthcare. CHSR is the only group specifically focusing on system-wide improvement for the MHS and responding directly to priority research requests from the DHA, OSD(HA), and other Federal agencies. This support directly enables DHA RDA Priorities of prioritizing transition and incorporating modernization priorities, which cannot be done without timely, accurate, evidence-based information on which to base decisions. CHSR aligns to joint requirements and meets the JCIDS identified gaps of DK1 and DK3 [DK1: Inconsistent approach to producing knowledge products and tools. 1) Inadequate process to introduce public health surveillance into RDT&E. 2) Inadequate surveillance, data capture, and exposure documentation tracking. 3) Inconsistent use and application of Service’s lessons learned information and how it					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 506 / *Health Research for Improved Medical Readiness and Healthcare Delivery (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
affects the health community's RDT&E; DK3: Lack a decision support mechanism that enables timely, accurate decisions and diagnosis at all levels of care]. Recently the CHSR was tapped to lead work on Ukrainian health and trauma system that will build Operational Care knowledge for future US readiness. Portfolio 2: Global Health Engagement (GHE) research is related to operational efforts and advanced technology development efforts that will meet the needs of the Joint Force in either improving the understanding and/or execution of DoD GHE, or utilizing DoD health research activities to engage a partner nation/partner nations in support of Combatant Command Campaign Plan objectives to further research. The GHE research needs of the warfighter are expressed by the regular demand signal of the Joint Force through the Office of the Joint Staff Surgeon (OJSS) and the Combatant Commands (CCMDs) Surgeons' Offices. Portfolio 3: The Center for Military Precision Health's (CMPH, formerly known as PRIMER) mission is to conduct innovative research applying genomic science, discoveries, and precision techniques to enhance the health, readiness and well-being of the Warfighter and DoD beneficiaries. CMPH provides standardized state of the art genome and molecular profiling services, genomic data analysis, and genomic data storage under DoD security and privacy compliance policies, addressing 8 separate DoD requirements across the MHS while also providing education in genomic information and performing clinical implementation research in the field of genomic medicine to inform policy and clinical practice guidelines for use of genomics in the MHS. CPMH enables HHS- and DOD-study subjects to participate in translational genomic research studies for human disease and conditions of posttraumatic stress disorder (PTSD), major depressive disorder, suicide-associated behaviors, cardiovascular disease, lung, prostate, breast, gynecological and other human cancers, traumatic brain injury and dementia and other complex human diseases. To date, The American Genome Center at CMPH has completed genomic and transcriptomic profiling on over 120,000 human samples and, MiCOR has screened 4,500 midshipmen for asymptomatic cardiovascular disease. CMPH also supports the Military Cardiovascular Outcomes Research (MiCOR) program to address gap areas identified in the Initial Capabilities Document for Cardiovascular Care with the first prospective genomic evaluation of cardiac arrest in the military (GEMINI study). Current collaborations with MiCOR in focus areas of sudden death examinations and pharmacogenomics are also active to address preventative measures for soldier readiness and health. In response to the COVID-19 pandemic CMPH scientists are collaborating with The National Institute of Allergy and Infectious Diseases (NIAID) and the DoD study EPICC via IDCRP, to provide state of the art molecular profiling and analysis of individuals with COVID related illness. These program projects directly address risk					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 506 / *Health Research for Improved Medical Readiness and Healthcare Delivery (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
factors and biomarkers for chronic and severe COVID-related health conditions after viral infection in young service members for readiness measures. Portfolio 4: The Military Women's Health research program's (MWHRP) mission is to foster research that influences policy and guides best practices for the health care of Active-Duty Service Women (ADSW) and Veterans. The Military Women's Health Research Consortium fosters aggregation and facilitates research that supports an operationally ready and deployable female force, improves accessibility and quality of healthcare that addresses the unique health needs of ADSW and veterans, and spans the life course of ADSW as they transition from military service to VA care. Portfolio 5: The Infectious Disease Clinical Research Program (IDCRP) designs and executes multicenter infectious diseases clinical research focusing on high-impact cohorts and interventional trials, to inform and improve care of the Warfighter. The focus is on emerging infections, antimicrobial resistance, and other high priority infections impacting military readiness in US and abroad. IDCRP will generate research evidence to inform warfighter care, develop DoD clinical practice guidance, assess cost effectiveness of interventions, and assist force health protection policy development. IDCRP has continued to focus efforts on DoD-relevant epidemiology efforts plus therapeutic and prophylactics aimed at COVID-19. ***FY 2023 Plans:*** CHSR FY 2023 Goals • Investigate racial disparities across our top 10 service lines of the MHS: This was recommended by the Defense Health Board and MHS leaders but at present we lack sufficient funds to undertake this research. • Low-value care (LVC) in the MHS: This project directly addresses the 2022 NDAA charging the MHS with reduction of LVC, but funding is scheduled to end in FY23, which will also result in loss of data for continuing the project if funding is not renewed. • Global Burden of Disease in the MHS: uses claims data from the MHS Data Repository (MDR) in an epidemiological methods framework to examine the total burden of disease, measured in disability-adjusted life years (DALYs), across civilian and military MHS beneficiaries. The two study aims are: 1) measure and describe the diseases and injuries related to the loss of health in the MHS population; and 2) investigate changes in population-level health status over time. This includes engagement with USU-PRIMER, USU-MiCOR and the NIH-National Heart, Lung, and Blood Institute (NIH) to determine the burden of heart disease and heart failure in					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 506 / *Health Research for Improved Medical Readiness and Healthcare Delivery (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
the MHS, and with the NIH-National Center for Deafness and Communication Disorders to determine the burden of hearing loss and vestibular disorders in the MHS. • Integrated Practice Unit (IPU) assessment with NICoE: use the NICoE model of co-located, integrated care to develop an IPU tool. • Morale, Manpower, and Medicine with University of Minnesota: assess the relationship between military medicine and military effectiveness, both in morale and as a soft power vs. peer and near-peer competitors. • By Request from OSD(HA): Physician and Nursing Personnel Gaps in MTFs: Optimizing Clinical Productivity during the Transition. • Voice of the Customer: Factors Impacting Choice of Programs in TRICARE (ongoing support to TRICARE and DHA) • Continued development of knowledge translation platform to provide push-pull capability for MHS leaders, clinical communities, and others. • Community building through the more than 130 member strong Health Services Research Interest Group and Value Based Care Journal Club, which is formed by intersectional MHS leaders and national public health leaders. • Develop and sustain Data Coordination Center for USUHS and other researchers needing to work with MHS data sets. • Capacity building through training and workshops including to National USUHS Faculty and MHS providers on the Ethics of Big Data Management and DoD Data Sets for Health Research. • Capacity building through the MPH and PhD in Public Health programs at USUHS. • Emerging Priorities as will be determined by NDAA 2022, DHA, OSD(HA), and other Federal agencies. CGHE FY 2023 Plans: As CGHE activities within CCMDs begin to regain momentum following the pandemic, CGHE is generating programmatic and administrative capacity to support CGHE AME and research requests. The CGHE is working with USCENTCOM to develop a Common Operating Picture for developing current and future USCENTCOM CGHE activities. Findings, recommendations, and process improvements resulting from the FRD and USAFRICOM studies will be generated and submitted during FY23. CGHE has initiated lines of research effort that seek to inform, align, and promulgate knowledge management best practices in support of Center and DoD GHE activities. CGHE knowledge management personnel will continue to collaborate with the FRD in support of this research activity. CGHE is preparing to accommodate the integration of the Defense Institute for Medical Operations (DIMO) within CGHE. Assessment, monitoring, and evaluation (AME) activities					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 506 / *Health Research for Improved Medical Readiness and Healthcare Delivery (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
and research efforts will focus upon supporting CGHE lines of effort and aligning DIMO with CGHE, OJSS, and CCMD mission objectives. CGHE anticipates the allocation of funding for a FY23 GHERI funding cycle, and is preparing to solicit CCMD GHE research priorities to inform a Call for White Papers to be issued in Q2 or Q3 FY23. Research personnel at CGHE will collaborate with USU VPR, ACQ, and FMG personnel to facilitate the administration of the FY23 GHERI, while concurrently working with Service representatives, the NIH Center for Scientific Review, and the National Center for Medical Intelligence for programmatic and scientific review of project submissions. CGHE anticipates additional Assessment, Monitoring and Evaluation efforts based on an on-going IG review in FY23/24. CMPH FY2023 Goals: 1. Innovate automated high throughput workflows for established manual methodologies (e.g., single cell transcriptome library preparation, whole genome bisulfite sequencing and synthetic long read genome sequencing). TAGC is currently implementing and validating a robotic liquid handling platform with a single adaptable deck layout for versatile multiomics workflows. The validation of this platform setup will enable replication of these workflows at other sites of laboratory activity with minimal implementation factors. 2. TAGC will establish a minimal set of pre-analytical assessment factors and workflow quality control metrics to provide as a manual of operations to collaborative laboratories for data generation homogeneity into a common data biobank for networked studies. As a component to establishing multi-site, multi-study features to molecular profiling studies, the TAGC scientific team and CMPH Data Science Core will established several cloud-based storage protocols and analytical pipelines for integrated genomics analysis to share primary data and analyzed results with team-selected investigators. 3. The American Genome Center will implement a shared resource of educational documents and protocols for distribution to the research community, will evaluate applications, methodologies and platforms for single molecule sequencing and will facilitate the establishment of operational components parallel to clinical Production Sequencing compliance standards. These activities will directly address the medical, educational and research needs for genomic medicine initiatives at the university and for collaborative federal government and DoD partner laboratory sites. 4. Recruitment of a Medical Geneticist, and other clinical research genetics personnel. These individuals will supplement existing key personnel. Specifically, the Clinical Implementation Division will improve variant interpretation and curation pipelines to support clinical genomic activities. In addition, ongoing research					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 506 / *Health Research for Improved Medical Readiness and Healthcare Delivery (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
endeavors related to the use of genomic sequencing information in the DoD are beginning and will require support from CMPH clinical programs. 5. Continue data collection and return of genetic results for the GEMini prospective clinical whole genome sudden cardiac arrest protocol. 6. Achieve full capacity for the APOLLO Network APOLLO 5 study molecular profiling and data analysis requirements. Military Women's Health Research Program (MWHRP) FY23 Goals: - The creation of a USUHS women's health tracking system and repository for all USUHS women's health research and evidence-based projects. - MWHRC will provide monthly reporting to the Health Affair's Women in Service Working Group meetings. The Military Women's Research Consortium expects to allot $3.6M as $1.2M FY23 RDT&E, $1.2M FY24 RDT&E, and $1.2M FY25 RDT&E appropriations to funds up to 3 Military Women's Health Research Consortium Awards for the first year with continuing funding up to 3 years, subject to availability of funds. Continued funding is dependent upon assessments of performance based on factors including in-progress review and quarterly progress reports. The award will support translational research targeting specific Focus Areas of Military Women's Health. Translational research is defined as work that "translates" basic science concepts and ideas into clinically relevant solutions and meaningful health outcomes with a view toward evaluating the feasibility of diagnostic and therapeutic techniques, clinical guidance, emerging approaches and technologies, promising new products, and/or pharmacologic agents. To meet the intent of this award mechanism, each research project must specifically address one or more of the Military Women's Health Focus Areas identified by the VA/DOD Women's Health Clinical Care Community and the HA Women in Service Working Group (WIS WG). IDCRP FY23-24 Goals: - Ongoing and outyear analyses of EPICC, PASS, MRAP and PAIVED protocols, including: o Vaccine correlates of protection research (EPICC, PASS, PAIVED) o A comprehensive Long COVID research road map which includes predictive studies and mechanistic studies (EPICC, MRAP), with potential applications to clinical trial endpoint design.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 506 / *Health Research for Improved Medical Readiness and Healthcare Delivery (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
o Ongoing integrated laboratory analyses on EPICC, PASS and PAIVED which will culminate in major mechanistic studies for influenza and SARS-CoV-2. o The MRAP study will provide rolling COVID-19 vaccine effectiveness estimates for ADSM as booster recommendations change and new variants circulate. - Complete enrollment and analysis of the two deployment RCTs (P2 and Treat TD 2.0) to support CPG requirements. - Newly established SSTI data and specimen repository protocol will leverage previously collected data and specimens from legacy SSTI protocols to conduct comprehensive analyses to support SSTI mitigation efforts in high-risk military populations. - Evaluate DoD Antimicrobial Stewardship Programs (ASP) on an enterprise level and provide a technical report on stewardship practices to the DoD ASP Working Group to inform process improvements within the DoD. The protocol is in direct support of a USUHS Public Health PhD thesis. - An acute respiratory infection (ARI) repository protocol – the IDCRP is currently planning a joint ARI protocol data and specimen repository protocol derived from the above and other ARI protocols. This will enable pooled subject level meta-analyses to answer current and emerging questions with improved statistical power, and allow pilot analyses and sample size calculations for new ARI protocols. This will further serve as critical resource for new assay development for future ARI pandemics which threaten Force Health. - Commence an augmented respiratory surveillance protocol at the US Naval Academy to inform ARI management and prevention in congregate military settings as a platform to rapidly characterize the epidemiology of emerging new respiratory infection threats (including new variants) and evaluate real world evidence for non-pharmaceutical interventions and licensed ARI medical countermeasures. This in turn will help inform practice guidelines for acute respiratory infections for service academies, training, and other congregate settings (inc. shipboard). ***FY 2024 Base Plans:*** CHSR FY 2024 Goals Continue Efforts as outlined in 2023, including: • Racial Disparities across Top 10 Service Lines • Low Value Care in the MHS • Global Burden of Disease Study • Long Term Impacts of Military Health System Response to COVID-19: A Health Services Research Approach to Sustainable Process Improvements					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 506 / *Health Research for Improved Medical Readiness and Healthcare Delivery (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
• Capacity building through training and workshops • Community building through the Health Services Research Interest Group and Value Based Care Journal Club • Develop and sustain Data Coordination Center for USU and other researchers needing to work with MHS data sets. • Continue to respond to high priority requests of DoD, MHS, interagency, and White House leaders. CGHE FY 2024 Plans: CGHE has augmented and refined its GHERI grant distribution process in preparation for ostensible upcoming funding cycles. CGHE plans to maintain such readiness to rapidly deploy CCMD CGHE research priorities, scientific and programmatic review processes, and funding distribution mechanisms when authorized. Further, CGHE plans to hold and facilitate a CGHE research presentation and poster session at the upcoming 2023 MHSRS conference in Kissimmee, FL. CMPH FY2024 Goals: Continuation of FY23 Goals. MWHRP FY2024 Goals: Continuation of FY23 Goals. IDCRP FY2024 Goals: Continuation of FY23 Goals. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Price adjusted for inflation.					
Accomplishments/Planned Programs Subtotals	11.022	11.631	11.883	0.000	11.883

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 507 / *Brain Injury and Disease Prevention, Treatment and Research (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
507: *Brain Injury and Disease Prevention, Treatment and Research (USUHS)*	26.900	13.378	14.132	14.415	0.000	14.415	14.703	14.997	15.297	15.603	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program supports drug discovery for chronic traumatic and encephalopathy/neurodegenerative disease.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Brain Injury and Disease Prevention, Treatment and Research	13.378	14.132	14.415	0.000	14.415

Description: Service members who have served in combat and have received repeated impact and/or blast TBIs are at risk for developing Chronic Traumatic Encephalopathy (CTE) and other neurodegenerative diseases with significant persistent behavioral/neurologic manifestations. Currently, there are no validated means for diagnosing these problems in living patients or drugs to prevent and treat them. The mission of our program is to develop drugs that will effectively block the formation of tau prions that can be entered into clinical trials for the prevention and/or treatment of CTE and other neurodegenerative disorders in at-risk active duty and retired service members. Using human brain specimens, CTE has been now shown to qualify as a transmissible tau prion disorder. To date, over 320,000 novel chemical compounds have been tested for their ability to interfere with in vitro tau prion formation. Several active compounds have been identified and using medicinal chemistry, we have attempted to improve their bioavailability and lower toxicity profiles. Such candidate drugs are now being tested for efficacy in animal models of tau prion disorders. Newly developed techniques to identify the presence of tau prions in brain samples have been developed and have now been shown to be efficient and highly sensitive.

FY 2023 Plans:

While the COVID-19 pandemic continues to constrain our pace of research, we plan to screen an additional 100,000 chemical compounds for potential effects of tau prion formation. Compounds identified with such properties will undergo medicinal chemistry analog studies to enhance biologic efficacy. The newly developed, highly sensitive tau prion assay techniques will be used on currently available and newly obtained human brain specimens and animal models to identify the presence, distribution and time-course of tau prion involvement of the brain. We will continue to further develop animal models which overexpress human tau and employ these for pathogenesis, infectivity and drug efficacy studies. Animal models to be actively investigated include Tg23027 mice, Tg12099 rats, hMAPT-KI mice, and ferrets. Further derivation of the Tg23027 mouse to

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 507 / *Brain Injury and Disease Prevention, Treatment and Research (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
remove mouse tau isoforms and remove their impact from the propagation of human tau prions is ongoing. Using CryoEM compare the three-dimensional structures of CTE prions to conformations from other non-TBI tauopathies including Alzheimer's Disease and Down Syndrome. Recognizing the realities of working in the COVID era, activities towards obtaining fresh frozen brain specimens from deceased Service Members who developed CTE will be cautiously expanded in order to provide additional isolates in order to expand our tau prion drug discovery program. ***FY 2024 Base Plans:*** Plans for FY2024 reflect a continuation of a multiyear effort to generate effective therapeutics and, as such, include many of the same ongoing activities from FY2023. We plan to screen an additional 100,000 chemical compounds for potential effects of tau prion formation. Compounds identified with such properties will undergo medicinal chemistry manipulation to enhance bioavailability and lessen toxicity profiles. To that end, we will synthesize and assay an average of 20 new designer inhibitors per week, for a total of 1,000 in the year. We will characterize drug-like properties of new analogs: we will test at least 450 new compounds for microsomal stability, 100 compounds for membrane permeability and assess the non-specific protein binding of another 250 through the course of the year. We will continue to further develop and utilize animal models which overexpress human tau and employ these for pathogenesis, infectivity and drug efficacy studies. High resolution Cryo-EM studies will proceed to create a model that further defines the specific atomic structure of tau prions related to CTE. Knowledge gained from this atomic structural model will be used as a selective template for screening the chemical compounds for their efficacy against CTE-related tau prion formation. We will identify a preclinical PET ligand for MSA prions to use in rodents. Correlate in vivo displacement of PET ligand to effective concentration of MSA drugs in the brains of rodent models. These research strategies align with the National Defense Strategy and MHS Strategic Goals & Objectives as articulated in the recently released Warfighter Brain Health Strategy & Action Plan (see page 9, "Develop medical countermeasures to reduce or eliminate long-term and/or late effects following TBI." ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Price adjustment for inflation.					
Accomplishments/Planned Programs Subtotals	13.378	14.132	14.415	0.000	14.415

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 507 / *Brain Injury and Disease Prevention, Treatment and Research (USUHS)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 508 / *Psychological Health and Resilience (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
508: *Psychological Health and Resilience (USUHS)*	14.140	7.042	7.428	7.577	0.000	7.577	7.729	7.884	8.042	8.203	Continuing	Continuing

A. Mission Description and Budget Item Justification

The "Psychological Health and Resilience" 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 prevention, treatment and recovery of warfighters and families in behavioral and mental health, which are critical to force health and readiness. Research is necessary to guide policy and ensure optimal delivery of behavioral health training and services across the continuum of care and deployment cycle. Threats addressed by this research component include post-traumatic stress disorder (PTSD), suicide, family separation, and family violence.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Psychological Health and Resilience	7.042	7.428	7.577	0.000	7.577
Description: STARRS-LS, the longitudinal successor studies to the groundbreaking Army STARRS research studies conducted from 2009 to 2015, includes the largest studies of military suicidal behaviors ever undertaken. In addition, STARRS studies have yielded a wealth of information about a variety of other health issues relevant to the military. STARRS-LS seeks to expand and extend the original research effort by continuing to follow cohorts comprised of the original participants, including expanding the Historical Administrative Data Study to include more than 3 million active-duty Soldiers from 2004 to 2019. STARRS-LS uses Big Data techniques and predictive analytics to develop knowledge that allow the Army and DoD to develop products from the knowledge. The volume, breadth and depth of the data compiled for large representative samples of Soldiers, and the unique combination of survey data, health outcome data, and genetic data, allow extensive state-of-the-art analyses. Because the data are available at the Army Analytics Group (AAG) Research Facilitation Laboratory (RFL), analytic opportunities are available for researchers other than the STARRS Research Team. The STARRS Research Team meets, presents findings, and shares ideas regularly with DoD and Army representatives who serve on the STARRS Government Steering Committee (includes representation from ASD-HA, Sec of Army, Army SG), the STARRS Research Advisory Team, DSPO and other groups to ensure that the STARRS research aligns with current DoD/DHP priorities. The STARRS Research Team has published 115 papers in peer-reviewed scientific journals so far. The 2021 U.S. White House strategy report on reducing military and veteran suicide described STARRS as "one of the most notable research efforts to understand risk for suicide in military and veteran populations.					
FY 2023 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 508 / *Psychological Health and Resilience (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
In addition to the primary achievement of research objectives, the program educates Federal employees as a benefit to the public they serve through Federal service, through support to civil authorities, and in non-Federal professional and academic collaborations. ***FY 2024 Base Plans:*** Continue efforts as outlined in FY 2023. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Price adjustment for inflation.					
Accomplishments/Planned Programs Subtotals	7.042	7.428	7.577	0.000	7.577

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 509 / *Innovative Technologies for Improved Medical Diagnoses, Rehabilitation and Warfighter Readiness (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
509: *Innovative Technologies for Improved Medical Diagnoses, Rehabilitation and Warfighter Readiness (USUHS)*	33.033	13.623	14.505	14.916	0.000	14.916	15.333	15.638	15.951	16.272	Continuing	Continuing

A. Mission Description and Budget Item Justification

The “Innovative Technologies for Improved Medical Diagnoses, Rehabilitation and Warfighter Readiness” program at USUHS is designed to answer fundamental questions of importance to the military medical mission of the Department of Defense in the three portfolio areas: Transforming Technology for the Warfighter (TTW), Surgical Critical Care, and the Rehabilitation Sciences Research.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Innovative Technologies for Improved Medical Diagnoses, Rehabilitation and Warfighter Readiness	13.623	14.505	14.916	0.000	14.916
Description: The “Innovative Technologies for Improved Medical Diagnoses, Rehabilitation and Warfighter Readiness” program at USUHS is designed to answer fundamental questions of importance to the military medical mission of the Department of Defense in the three portfolio areas: Transforming Technology for the Warfighter (TTW), Surgical Critical Care, and the Rehabilitation Sciences Research. Portfolio 1: The Transforming Technology for the Warfighter (TTW) program supports USUHS partnerships with other DoD biomedical labs, civilian universities and medical centers (including minority serving institutions), and the National Institutes of Health to advance and deliver new technologies to improve warfighter health and readiness. Research projects, which focus primarily on the Combat Casualty Care, Military Operational Medicine, and Clinical and Rehabilitative Medicine defense medical R&D areas of interest, are selected based on scientific peer review and programmatic review with an emphasis on direct relevance to identified military needs, translational potential, and clear strategy for product commercialization. Specifically, the program aims to advance Technology Readiness Level (TRL) 3 projects to TRL 4/5/6 within a maximum of three (3) to five (5) year performance period. Although the program is built around the needs of the warfighter, it also advances civilian care by supporting projects that benefit both the warfighter and the general public. The TTW program fully supports the DoD’s Joint Capabilities Integration and Development System (JCIDS) and continually works to link projects to DoD requirements documents, including the 2008 Initial Capability Documents (ICD) for Military Operational Medicine, the 2014 ICD for Combat Casualty Care (CCC) Devices and Products, the 2015					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 509 / *Innovative Technologies for Improved Medical Diagnoses, Rehabilitation and Warfighter Readiness (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
ICD for CCC Training Technologies, the 2015 ICD for CCC Medical R&D, and the 2017 ICD for Clinical and Rehabilitative Medicine. Portfolio 2: The Surgical Critical Care Initiative (SC2i), a consortium of 7 institutions (USU, Henry M. Jackson Foundation for the Advancement of Military Medicine, NMRC, Duke, Emory, DecisionQ), enrolls critically ill patients (as well as healthy controls), leveraging medical and multi–omics data to develop Clinical Decision Support Tools (CDSTs) that will improve clinical outcomes and lower resource utilization across military and civilian healthcare systems. The CDSTs will further assist readiness by either accelerating return to duty (abridged length-of-stay across the ICU, general ward, and rehabilitation continuum of care) and curbing medical resource burdens. The SC2i also collaborates with the Lawrence Livermore National Laboratory, University of Pittsburgh, University of South Florida, Brooke Army Medical Center, University of Vermont, among others. Through collecting patient specimens, laboratory testing, microbial analytics, and data modeling, our CDSTs will augment individual precision medicine, decrease the Warfighter's healing time, and accelerate their return to readiness. The SC2i is transforming patient data into actionable information, improving diagnosis in healthcare, and reducing the cost of care through early detection of surgical complications. Our current focus is on 3 CDSTs to aid in advanced Sepsis prediction, timing of wound closure, and early detections of pneumonia, bacteremia, and venous thromboembolism. The AIDEx (Sepsis and other Decompensation) tool will be launched into the BAMC in FY23, with use in nine other military medical facilities within the year following. Additionally, the SC2i is working with the Office of Regulated activities to develop a regulatory strategy for the AIDEx tool for the FDA using a predicate 510(k) pathway. This tool aims to predict sepsis 6-12 hours prior to onset. The WounDx CDST should be in place prior to FY27 in multiple MHS and civilian facilities. WounDx addresses an unmet clinical need of uncertainty in the timing of wound closure; additionally, it will lessen the number of dehisced wounds, which occur in an approximately 15-30% of wounded warriors. Other CSDTs include diagnosis of acute kidney injury, severe traumatic brain injury, acute respiratory distress syndrome, open abdomen infections, appendicitis, heterotopic ossification, and snakebite recovery. We have 2 CDSTs currently in use in the MHS or civilian hospitals: Invasive Fungal Infection, which is used to detect patients at increased risk of fungal infections, as well as the Massive Transfusion Protocol app to identify when such is needed in trauma patients. The MTP app has been further adapted for use in Role 1 / 2 care settings and is undergoing external validations in partnership with ARA and MTEC. Potential cost savings (2018 internal business case analysis) through the use of seven of our CDSTs is estimated at $10B annually for the US healthcare system, and $110M annually for the US military health system.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 509 / *Innovative Technologies for Improved Medical Diagnoses, Rehabilitation and Warfighter Readiness (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Other SC2i work includes USUHS Department of Surgery student engagement and the generation and dissemination of knowledge products throughout the civilian and medical communities. Recruitment to date is approximately 3,300 patients; 7,600 laboratory samples, and 62 million data points. Portfolio 3: The Center for Rehabilitation Sciences Research (CRSR) supports clinical and translational research efforts dedicated to enhancing the rehabilitative care of the wounded warrior, particularly those with orthopedic trauma, amputation and neurological injury. Research focus areas include: 1) Identifying and mitigating barriers to successful rehabilitation, return to duty and community reintegration; 2) Improved pain management to support active participation in rehabilitation; 3) Applying Advanced Technologies to augment rehabilitation methods and outcomes assessments; 4) Developing and testing advanced technologies to restore individual functional independence; 5) Regenerative Rehabilitation translational products for war-related trauma. Musculoskeletal injuries (MSKI) are the largest source of disability in the military and affect 800,000 Service Members annually, accounting for 25 million days of limited duty. Most concerning, the disability discharge rate for MSKI has increased 13x between 1981 and 2005 (70 vs. 950 per 100,000 persons), and these trends have continued to increase in the Department of Defense (DoD) and Veterans Affairs Administration in the most recent decade. The Defense Health Agency recognized this unmet clinical/operational gap and funded the formation of the Musculoskeletal Injury Rehabilitation Research for Operational Readiness (MIRROR) organization in 2019. In the past three years since our inception, MIRROR has established a world-class infrastructure (data, regulatory, governance) that is compliant with the DoD for conducting research, expanded the number of studies from 14 to 40, formed partnerships with 24 military and academic centers, received $65 million in grant funding, hosted 5 educational symposiums, generated 19 Post-Operative Rehabilitation Protocols to standardized care across the Tri-Service, and published 82 abstracts and peer-reviewed publications. Since then, our enrollment across all studies is approximately 5,100 subjects. Moving forward, we plan to execute on our current projects and continue to provide value through: (1) research and operational support to new military treatment facilities, (2) closing critical care injury/pain gaps (e.g., spine, knee, ankle, shoulder), (3) evaluating novel imaging modalities (e.g., elastography), (4) performing sub analyses to understand gender disparities, predisposition to injury, response to treatments, etc. MIRROR was also selected to host a 3-hour session at MHSRS 2022. The Photomedicine to Enhance Military Readiness program is a four-year, $22 million initiative with the Wellman Institute, The Geneva Foundation, HJF, and Spaulding Rehabilitation that supports JPCs 5, 6 and 8. These teams are executing 15 clinical and translational research projects to deliver optimal dosimetry of photobiological therapy to enhance performance, reduce the potential for MSKI, assist with nerve graft healing, enhance					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 509 / *Innovative Technologies for Improved Medical Diagnoses, Rehabilitation and Warfighter Readiness (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
audiology function, etc. Projects are progressing and in various stages of device development, benchtop research, and regulatory review [Institutional Review Board (IRB) approval for clinical trials and Institutional Care and Use Committee (IACUC) approval for animal research]. In addition to these clinical and translational research projects, CRSR continues to provide leadership and coordination of the Military Treatment Facility Engagement Committee (MTFEC) within the Pain Management Collaboratory (PMC) Coordinating Center (PMC3), which is an $81 million inter-agency initiative to support a multi-component research effort focused on non-pharmacological approaches for pain management supporting JPCs 6 and 8. Four ongoing pragmatic trials studying non-pharmacological approaches to pain for military service members and veterans continue, expanding to one additional performance site. A one-hour session at MHSRS 2022 titled, 'Novel Interventions for Non-pharmacological Pain Management,' was moderated by DoD representative and MTFEC member, Dr. Henry Nothnagel. To continue conversations among VA, DoD, and DHA members, a cross-collaboration working group has been established to discuss policies and procedures to enhance clinical research execution within the DoD. CRSR has been a leader in the 30-institution NCAA-DoD Concussion Assessment, Research and Education (CARE) Consortium, which includes the Service Academy Longitudinal TBI Outcomes Study (SALTOS). To date, recruitment totals over 53,000 participants, including more than 23,000 Service Academy cadets and midshipmen, with just over 6,700 recorded concussions, making this the largest study of its kind on the natural history and neurobiology of concussion. Thus far in FY22, 15 manuscripts have been published and 23 presentations have been completed to disseminate important findings from this cohort. Additional funding has been secured, totaling $42.65 million for the longitudinal continuation study, CARE-SALTOS Integrated (CSI). Stand-up of CSI, which will follow cadets, midshipmen, and NCAA athletes post-graduation to determine intermediate and long-term impacts of concussion on health and military service, is currently underway at five military sites, and over 500 military participants have completed Tier 1 of CSI. ***FY 2023 Plans:*** TTW FY2023 Plans: Intranasal Delivery of Ketamine for PSTD: A TTW-funded project at Boston University exploring the use of mucoadhesive intranasal Ketamine particles for the treatment of PTSD demonstrated efficacy of a new polysaccharide biomaterial that has potential to overcome the limitations of low-dose ketamine. The TTW program will fund a follow-on project to be conducted in collaboration with Dr. Caroline Browne at USUHS to evaluate the pharmacokinetics and anti-nociceptive effects of these ketamine-loaded synthetic particles in					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 509 / *Innovative Technologies for Improved Medical Diagnoses, Rehabilitation and Warfighter Readiness (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
an animal model. This preclinical work will aid in further development and validation of a safe, noninvasive, prolonged-release intranasal vehicle for the delivery of Ketamine as a treatment for PTSD. Photo-biomodulation for Pain Control (follow-on): As outlined above, the TTW program is providing additional funding for Dr. Anders's photo-biomodulation technology previously developed under TTW using Micro Needle Array (MNA) technology to build and validate a prototype battery-powered pain blocking device in an in-vivo large animal model. SC2i FY2023 Plans: WounDx Clinical Decision Support Tool (CDST): Improve clinical outcomes and cost savings by addressing unmet clinical needs for the timing of wound closure. This research will be completed through the processes of obtaining an Investigational Device Exemption and conducting an FDA clinical trial, demonstrating the safety and efficacy of the WounDx CDST. Elevate military readiness by returning wounded warriors to the battlefield, and reducing the cognitive burden of surgeons responding to multi-domain operations. Minimize loss of life and limb in deployed field hospitals and definitive care facilities; minimize battle casualty morbidity and mortality. This project supplements the SC2i mission of improved clinical outcomes at lower costs, through creating clinical decision support tools that focus clinicians on the best choices for each patient. Annual SC2i Core funding supports the initiation of this research; we are seeking funding to extend our research through an IDE/FDA trial, making our tool ready for use in both military and civilian institutions. Implementation will continue for our Sepsis prediction CDST (AISE/AIDEx) integration into one or two military health facilities. A pilot study will be initiated. Will continue to work with DHA to develop best clinical workflow and perform model retraining for specific MTFs involved in the pilot. Our Massive Transfusion protocol will continue to be tested in our Consortium partner hospitals (Duke and Emory), with the goal of deploying the tool into the military health system. Continue supporting education and research initiatives with USUHS UME and GME students, as well as clinical researchers across the DoD. CRSR FY2023 Plans: • FY23 award executed with the Uniformed Services University of the Health Sciences (USUHS) and funds received September 2022 for additional POM funding to support the continuation of CRSR. • Anticipated completion and analysis of results from the Service Dog Training Program study, Big Dog, as well as from a study assessing transcranial magnetic stimulation for mild traumatic brain injury (mTBI) and post-traumatic stress disorder, among other multi-year studies in the CRSR portfolio.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 509 / *Innovative Technologies for Improved Medical Diagnoses, Rehabilitation and Warfighter Readiness (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
• SALTOS will continue data collection through the 2022/2023 academic year at three military service academies. • CSI will continue Tier 1 electronic survey recruitment, initiate Tier 2 in-person recruitment, and stand-up the Tier 3 data repository merging research data with military health records. • Commencement of at least seven new research protocols, which were in development and approval phases during FY22. • Development of publications and presentations resulting from the completion of various studies aforementioned. • Four additional proposals in development and/or submission stages, in which a number of CRSR personnel are Principal Investigators, to include: • (1) AMTI proposal in for $150,000 for 1 year; a QI/PI project to evaluate the impact of 3D scanning and printing in reducing production time and patient satisfaction of prosthetics. • (2) Full proposal of $250,000 over two years submitted to CPMRP to assess the efficacy of PRTMS treatment in reducing pain among MHS beneficiaries who are receiving standard of care therapy for chronic neck pain at WRNMMC. • (3,4) Collaborating with MN for multi-year studies via the MDO funding mechanism: “Oculomotor function as an early neurophysiologic marker in concussion and blast exposure” and “Biomarkers of neuropathic pain and neuroinflammation for individuals with spinal cord injury”					
FY 2024 Base Plans: TTW FY24 Plans: Continue efforts as outlined in FY 2023. SC2i FY24 Plans: Build our TripleDx CDST to predict Venous Thromboembolism (VTE), Pneumonia, and Acute Kidney Injury (AKI) in the clinical setting to allow clinicians to intervene and fine tune treatment to benefit patient care. Continue with discovery work around the inflammatory processes involved in snake bite and envenomation and recovery. Complete statistical modeling, design software, and evaluate in a clinical trial setting. Continue WounDx clinical trial (from above). CRSR FY24 Plans: Continue efforts as outlined in FY 2023.					
FY 2024 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 509 / *Innovative Technologies for Improved Medical Diagnoses, Rehabilitation and Warfighter Readiness (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Price adjustments for inflation.					
Accomplishments/Planned Programs Subtotals	13.623	14.505	14.916	0.000	14.916

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 511 / *Cancer Moonshot Initiatives*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
511: *Cancer Moonshot Initiatives*	0.000	0.000	12.300	12.500	0.000	12.500	12.800	13.100	13.400	13.668	Continuing	Continuing

Note

This Project overall is a new start in FY 2023 and all elements of this new Project are new and novel in support of the DoD aspect of the federal Cancer Moonshot 2 initiative mandated by the White House in February 2022.

A. Mission Description and Budget Item Justification

DoD Cancer Moonshot 2 (CM2) is a mission assigned by the DoD to USUHS Murtha Cancer Center Research Program (MCCRP) as a mandate from the White House's federal Cancer Moonshot part 2 (CM2) that was initiated in February 2022. CM2 is the next generation of the original federal cancer moonshot program initiated in 2016, for which the MCCRP is actively engaged in ongoing cancer studies. The DoD CM2 program is a new initiative with new translational research projects but can and will leverage the findings and capabilities that MCCRP has developed from the cancer moonshot 2016 program. In CM2, MCCRP will leverage DoD's unique and additional capabilities to contribute to advancement of the seven priority areas of CM2 as designated by the White House. The MCCRP's three new initiatives under the CM2 for DoD include: 1) Cancer Research and Clinical Trial Network; 2) Data Analytics (Integrated and pan-omic) and Molecular Cancer Epidemiology; and 3) DoD Serum Repository Projects surrounding environmental and toxin exposures in service members.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Cancer Moonshot Initiatives	0.000	12.300	12.500	0.000	12.500
Description: There are three new research areas developed for this new Project under the Cancer Moonshot 2 (CM2) for DoD through USUHS MCCRP: 1) Cancer Research and Clinical Trial Network; 2) Data Analytics and Molecular Cancer Epidemiology; and 3) Environmental Exposures and Toxins in Military / DoD Serum Repository Projects. These three new initiatives will address the federal government / White House's seven stated goals for Cancer Moonshot 2 which are: to diagnose cancer sooner; to prevent cancer; to address inequities; to target the right treatments to the right patients; to speed progress against the most deadly and rare cancers including childhood cancers; to support patients, caregivers, and survivors; and to learn from all patients. Under these seven new pillars for CM2, the two overall goals per the White House for Cancer Moonshot 2 is to decrease the cancer death rate from cancer by 50% over the next 25 years, and to improve the experience of people and their families living with and surviving cancer. Our DoD Cancer Moonshot 2 initiatives are specifically developed and precisely aligned to address the overall CM2 seven pillars and two goals within the DoD health care system along with our federal partners. MCCRP focus of these projects is for active duty, veterans, and beneficiaries at risk for or with cancer. However, the initiatives and findings will have impact for the nation as a whole as part of the larger national Cancer Moonshot 2.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 511 / *Cancer Moonshot Initiatives*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
FY 2023 Plans: There are three new research areas developed for this new Project under the Cancer Moonshot 2 (CM2) for DoD through USUHS MCCRP: 1) Cancer Research and Clinical Trial Network; 2) Data Analytics (Integrated and pan-omic) and Molecular Cancer Epidemiology; and 3) DoD Serum Repository Projects surrounding environmental and toxin exposures in servicemembers. These three new initiatives will address the federal government / White House's seven stated goals for Cancer Moonshot 2 which are: to diagnose cancer sooner; to prevent cancer; to address inequities; to target the right treatments to the right patients; to speed progress against the most deadly and rare cancers including childhood cancers; to support patients, caregivers, and survivors; and to learn from all patients. Under these seven new pillars for CM2, the two overall goals per the White House for Cancer Moonshot 2 is to decrease the cancer death rate from cancer by 50% over the next 25 years, and to improve the experience of people and their families living with and surviving cancer. Our DoD Cancer Moonshot 2 initiatives are specifically developed and precisely aligned to address the overall CM2 seven pillars and two goals within the DoD health care system along with our federal partners. MCCRP focus of these projects is for active duty, veterans, and beneficiaries at risk for or with cancer. However, the initiatives and findings will have impact for the nation as part of the larger national Cancer Moonshot 2. There are three new projects under the Cancer Moonshot 2 (CM2) for DoD through USUHS MCCRP: 1) Cancer Research and Clinical Trial Network; 2) Data Analytics (Integrated and pan-omic) and Molecular Cancer Epidemiology; and 3) DoD Serum Repository and Tissue/Data Projects surrounding environmental and toxin exposures in service members. The base plans for each of the three are as follows: 1) Cancer Research and Clinical Trial Network: Herein referred to as "the Network", this is the foundational element of CM2 as it provides the link between the research protocols, studies, clinical trials, and the patients who need equitable access to them. It is axiomatic that the best treatment for cancer patients is a clinical trial. Despite knowing that, less than 10% of all cancer patients are enrolled in a clinical trial and there are known inequities with regards to lack of diversity in clinical trial enrollment across the nation. While MCCRP has done some limited engagement in this area across the DoD and other federal hospitals for our active duty, retirees, veterans, and beneficiaries with cancer, this Task #1 will enable the full build-out, completed development, and actualization of the vast potential of the DoD health care system and its hospitals as well as partner federal facilities into a fully functional and integrated military / veterans cancer clinical trials and research network. MCCRP will fully enable, staff, and support the network at DHA / DoD hospitals/medical centers and VHA facilities as well as partner sites and will enable and support the implementation and running of cancer research					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 511 / *Cancer Moonshot Initiatives*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
and trials across the network that have significance and relevance to the specific needs of the active duty and veteran populations with a focus on Readiness preservation. 2) Data Analytics (Integrated and pan-omic) and Molecular Cancer Epidemiology: Herein referred to as "Data", this project element of CM2 is needed in order to maximize the existing and to-be-developed multiple and disparate data streams that have been or are being developed from both CM1 and CM2 research and translational studies. Additionally, the CM2 Data project will enable the storage (cloud-based; on-site servers; other requirements) of the huge data files that have been, are being, and will be developed as part of all CM activities past, present, and future. Furthermore, the CM2 Data project will develop through partnerships and in-house development, the capability to utilize Machine Learning and Artificial Intelligence and other types of novel "big data" analytic tools in order to maximize the knowledge gained from the large and disparate data sets that our DoD CM1 and CM2 research projects have created and are creating. These large "big data" sets are exemplified but not limited to complex proteogenomic data, other multi-omics (eg. lipidomics, metabolomics, methylation, circulating DNA, others), clinical data, outcomes data of all types, tumor registry data, DHA / DoD / MCCRP datasets, radiomics data, patient reported outcomes data, and all other developed or existing data sets of any relevant type. Murtha DoD CM2 Data project will also ingest and incorporate for analysis any and all relevant intramural and extramural data sets of any and all types both existing and under development when available. 3) DoD Serum Repository and Tissue/Data Projects surrounding environmental and toxin exposures in service members: Herein referred to and subsequently identified as "PROMETHEUS", PROject for Military Exposures and Toxin History Evaluation in US servicemembers, is a unique first-in-class research project that takes any and all available relevant biospecimens, data, exposure history, and expertise both intramural and extramural to operationalize robust molecularly-based inquiries into the complex questions and issues surrounding the putative roles of environmental exposures, toxin exposures, and military-specific job requirements into the risk for and development of cancers or pre-cancerous conditions in active duty service members, retired service members, and veteran service members. PROMETHEUS will be intended to develop predictive capabilities, associations, and causality knowledge to allow for "Forethinker" predictive-in-advance abilities of what types of the above exposures and toxins may be mitigated, controlled, or avoided in order to better preserve the Readiness of the Total Force. This project will utilize and ingest any and all available DoD- and VA-level data sets (eg. ONCOLOG; ILER; MilCanEpi; M2; TRICARE; other), liquid and solid biospecimens and tumors to include from the AFHSD's DoD Serum Repository, MCCRP biobanks, and any other DoD-funded or available biospecimens and data sets. PROMETHEUS will partner with government and non-government experts in this field to ensure development of best-in-class research utilizing these unique, vast data and biospecimen sets across multiple molecular analytic labs and processes both governmental and non-governmental (to include					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 511 / *Cancer Moonshot Initiatives*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
but not limited to civilian, university, and corporate molecular capabilities). The intake will include substrate on exposures, toxins, environment, blood, serum, tissues, and other data, and the outputs will include molecular and biologic pathways, correlations and causations, mechanisms, knowledge, and prevention opportunities. Clinical Practice Guidelines and Knowledge/Materiel Products will be additional expected deliverables. ***FY 2024 Base Plans:*** FY 2024 plans continue efforts outlined in FY 2023. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Price adjustments for inflation.					
Accomplishments/Planned Programs Subtotals	0.000	12.300	12.500	0.000	12.500

	FY 2022	FY 2023
Congressional Add: Cancer Moonshot Initiatives (USUHS) ***FY 2022 Accomplishments:*** N/A	0.000	-
Congressional Adds Subtotals	0.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for Budget Activities 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency											Date: March 2023	
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0604110DHA *I Medical Products Support and Advanced Concept Development*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	437.585	190.750	202.431	172.351	0.000	172.351	175.518	179.161	182.475	186.125	Continuing	Continuing
400Z: *CSI - Congressional Special Interests*	61.816	53.236	35.640	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
374: *GDF - Medical Products Support and Advanced Concept Development*	363.689	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
374A: *GDF - Medical Simulation and Training*	0.000	18.490	18.422	18.445	0.000	18.445	16.460	17.020	17.360	17.707	Continuing	Continuing
374B: *GDF - Medical Readiness*	0.000	49.534	69.087	71.227	0.000	71.227	74.568	77.893	79.452	81.041	Continuing	Continuing
374C: *GDF - Medical Combat Support*	0.000	43.453	27.150	27.917	0.000	27.917	22.919	18.078	18.418	18.786	Continuing	Continuing
374D: *GDF - Restoration & Healthcare Systems*	0.000	22.027	26.052	26.080	0.000	26.080	32.595	36.502	37.232	37.977	Continuing	Continuing
374E: *GDF - Medical Materiel/ Medical Biological Defense Equipment Development*	0.000	0.000	21.835	24.352	0.000	24.352	24.559	25.163	25.417	25.926	Continuing	Continuing
434A: *Air & Space Medical Readiness Advanced Concept Development (AF)*	12.080	4.010	4.245	4.330	0.000	4.330	4.417	4.505	4.596	4.688	Continuing	Continuing

A. Mission Description and Budget Item Justification

Guidance for Development of the Force - Medical Products Support and Advanced Concept Development: This program element (PE) provides funding to support: advanced concept development of medical products that are regulated by the US Food and Drug Administration (FDA); clinical and field validation studies supporting the transition of FDA-licensed and unregulated products and medical practice guidelines to military operational users; prototyping; risk reduction and product transition efforts for medical devices and/or information technology applications such as coordination with the Program Execution Offices for integration of medical aspects into other acquisition Programs of Record; and medical simulation and training system technologies.

Development, test, and evaluation in this PE is designed to address requirements identified through the Joint Capabilities Integration and Development System and other Department of Defense operational needs. Research Development Test and Evaluation priorities for the Defense Health Program (DHP) are guided by, and will support, the National Defense Strategy, the Joint Staff Surgeon's Joint Concept for Health Services, and other DoD strategic framework documents.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0604110DHA *I Medical Products Support and Advanced Concept Development*

Program development and execution is coordinated with all of the Military Service Components and the Special Operations Command, 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. Coordination occurs through the planning and execution activities of the Defense Health Agency Component Acquisition Executive (DHA/CAE) as the Milestone Decision Authority for joint medical materiel development efforts and of Service Authorities for Service-specific capability requirements. As technologies mature, the most promising efforts will transition to medical products and support systems development funding, PE 0605145.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	142.252	166.960	172.351	0.000	172.351
Current President's Budget	190.750	202.431	172.351	0.000	172.351
Total Adjustments	48.498	35.471	0.000	0.000	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.169			
• Congressional Rescissions	-	-			
• Congressional Adds	55.108	35.640			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-6.610	-			

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 400Z: *CSI - Congressional Special Interests*		
Congressional Add: *374 - Congressional Add - GDF - Medical Products Support and Advanced Concept Development*	5.404	0.000
Congressional Add: *441A - Joint Warfighter Medical Research Program*	15.466	16.000
Congressional Add: *464 - GDF - Restore Core Research Funding Reduction*	4.336	0.000
Congressional Add: *464 - USUHS - Restore Core Research Funding Reduction for National Disaster Medical System Pilot Study*	14.486	0.000
Congressional Add: *554 - Joint Civilian Medical Surge Facility*	13.544	19.640
Congressional Add Subtotals for Project: 400Z	53.236	35.640
Congressional Add Totals for all Projects	53.236	35.640

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	Project (Number/Name) 400Z / *CSI - Congressional Special Interests*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
400Z: *CSI - Congressional Special Interests*	61.816	53.236	35.640	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

Defense Health Program funded Congressional Special Interest (CSI) directed research. The strategy for the FY 2023 Congressionally-directed research program is to stimulate innovative research through a competitive, focused, peer-reviewed medical research at intramural and extramural research sites. Because of the CSI annual structure, out-year funding is not programmed.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
Congressional Add: 374 - Congressional Add - GDF - Medical Products Support and Advanced Concept Development ***FY 2022 Accomplishments:*** FY22 Congressional Add ***FY 2023 Plans:*** N/A	5.404	0.000
Congressional Add: 441A - Joint Warfighter Medical Research Program ***FY 2022 Accomplishments:*** FY22 Congressional Add ***FY 2023 Plans:*** FY23 Congressional Add	15.466	16.000
Congressional Add: 464 - GDF - Restore Core Research Funding Reduction ***FY 2022 Accomplishments:*** This is a program increase due to GDF restoral in the FY22 enacted budget. ***FY 2023 Plans:*** N/A	4.336	0.000
Congressional Add: 464 - USUHS - Restore Core Research Funding Reduction for National Disaster Medical System Pilot Study ***FY 2022 Accomplishments:*** This is a program increase due to restoral in the FY22 enacted budget. ***FY 2023 Plans:*** N/A	14.486	0.000
Congressional Add: 554 - Joint Civilian Medical Surge Facility ***FY 2022 Accomplishments:*** FY22 Congressional Add ***FY 2023 Plans:*** FY23 Congressional Add	13.544	19.640
Congressional Adds Subtotals	53.236	35.640

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	**Project (Number/Name)** 400Z / *CSI - Congressional Special Interests*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

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.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	Project (Number/Name) 374 / *GDF - Medical Products Support and Advanced Concept Development*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
374: *GDF - Medical Products Support and Advanced Concept Development*	363.689	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Note

Starting in FY 2022, funding from Project 374 was realigned to Projects 374A, 374B, 374C, and 374D.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force-Medical Products Support and Advanced Concept Development: This funding supports materiel development of products that provide solutions for the most pressing medical needs of the Warfighter through advanced concept development of medical products that are regulated by the US Food and Drug Administration (FDA); clinical and field validation studies supporting the transition of FDA-licensed and unregulated products and medical practice guidelines to the military operational user; prototyping; risk reduction and product transition efforts for medical information technology applications such as coordination with the Program Execution Offices for integration of medical aspects into other acquisition Programs of Record; and medical simulation and training system technologies.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF – Medical Product Support and Advanced Concept Development	0.000	0.000	0.000	0.000	0.000
Description: This funding provides product support and advanced concept development of materiel products that meet the medical needs of the warfighter. Materiel development may include accelerated transition of US Food and Drug Administration (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.					
FY 2023 Plans: Starting in FY 2022, funding from Project 374 was realigned to Projects 374A, 374B, 374C, and 374D.					
FY 2024 Base Plans: N/A					
FY 2024 OCO Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	**Project (Number/Name)** 374 / *GDF - Medical Products Support and Advanced Concept Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Starting in FY 2022, funding from Project 374 was realigned to Projects 374A, 374B, 374C, and 374D.					
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

This program will test and evaluate pharmaceuticals, devices, medical support systems, and medical information technologies in government-managed clinical trials and user assessments to gather data required for military and regulatory requirements prior to production and fielding, to include FDA approval, Environmental Protection Agency registration, and safe-to-fly evaluation.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	Project (Number/Name) 374A / *GDF - Medical Simulation and Training*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
374A: *GDF - Medical Simulation and Training*	0.000	18.490	18.422	18.445	0.000	18.445	16.460	17.020	17.360	17.707	Continuing	Continuing

Note

Starting in FY 2022, funding for Project 374A was realigned from Projects 374. This Project is not a new start.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force - Medical Simulation and Training: This funding supports materiel development of products that provide solutions for the most pressing simulation and training needs of the Warfighter through advanced concept development and prototyping of medical products and medical information technology applications in direct support of MHS Beneficiaries.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF - Medical Simulation and Training	18.490	18.422	18.445	0.000	18.445
Description: This funding provides product support and advanced concept development of materiel products that meet the medical simulation and training needs of the warfighter. Materiel development may include accelerated transition of simulation and training capabilities along with 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. ***FY 2023 Plans:*** Programs will focus on development and application of medical simulation and training capabilities for hospital care and operations. The Point-of-Injury and Trauma Simulation program will continue capability development tying together individual, collective, service and Joint training to Warfighters and Medical Professionals across the Department of Defense. The Virtual Education Center advances and addresses patient education shortfalls to increase patient experiences and knowledge. The Hospital Training Simulation Systems and Evacuation and Transportation Simulation Systems programs will continue to develop, standardize and baseline the Medical Treatment Facility, Theater Hospital training (care and procedures), and en-route patient care training for interoperability. The Learning, Tactics and Technology Systems program will continue to develop the training courses, hands-on training, and exercises to develop and maintain military medical skills that enhance and					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	**Project (Number/Name)** 374A / *GDF - Medical Simulation and Training*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
maximize the training simulations, manikins, and will unify patient and clinical education across the MHS and improving healthcare across the Department of Defense. ***FY 2024 Base Plans:*** FY 2024 plans continue efforts as outlined in FY 2023 and support advanced development, prototypes and evaluation of medical simulation and training. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to inflation.					
Accomplishments/Planned Programs Subtotals	18.490	18.422	18.445	0.000	18.445

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

This program will test and evaluate medical support systems, medical information technologies, and simulation and training capabilities in operational and clinical user assessments to gather data required for military and regulatory requirements prior to production and fielding.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	Project (Number/Name) 374B / *GDF - Medical Readiness*	

COST ($ in Millions)	Prior Years (+)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
374B: *GDF - Medical Readiness*	0.000	49.534	69.087	71.227	0.000	71.227	74.568	77.893	79.452	81.041	Continuing	Continuing

(+) The sum of all Prior Years is $0.000 million less than the represented total due to several projects ending

Note

Starting in FY 2022, funding for Project 374B was realigned from Projects 374. This Project is not a new start.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force-Medical Products Support and Advanced Concept Development: This funding supports materiel development of products that provide solutions for the most pressing medical needs of the Warfighter through advanced concept development of medical products that are regulated by the US Food and Drug Administration (FDA); clinical and field validation studies supporting the transition of FDA-licensed and unregulated products and medical practice guidelines to the military operational user; prototyping; risk reduction and product transition efforts for medical information technology applications such as coordination with the Program Execution Offices for integration of medical aspects into other acquisition Programs of Record.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF - Medical Readiness	49.534	69.087	71.227	0.000	71.227
Description: This funding provides product support and advanced concept development of materiel products that meet the medical needs of the warfighter. Materiel development may include accelerated transition of US Food and Drug Administration (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.					
FY 2023 Plans: Programs will focus on prevention of illness and injury along with optimization of human performance. Significant FY23 Programs: Canine Thermal Model and Monitor (CTMM) plans to perform Cyber, IV&V, and Operational Assessment Tests for Increment 2; Health Readiness and Performance System (HRAPS) plans to transition wearable system programs under its integrated system; Transition to Joint Health Risk Management to HRAPS and inclusion of wearable noise; COVID-19 pilot study using algorithms developed to provide early warning of COVID-19 infection; and MASTR-E transition for Squad Performance Prediction algorithms and MOMRP/USARIEM for compression shirt technology. Completion of Broad-Spectrum Snake Bite Antidote First Phase 2 clinical trial and initiation of second Phase 2 clinical trial and registration batch manufacturing; and Pharmaceutical Intervention for Noise-Induced Hearing Loss - Acute Exposure Treatment (PINIHL-AET) will					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	**Project (Number/Name)** 374B / *GDF - Medical Readiness*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
continue ongoing Phase 2 clinical trials to test safety and efficacy of a promising pharmaceutical. Also, continue development efforts for Digital Radiography. ***FY 2024 Base Plans:*** FY 2024 plans continue efforts as outlined in FY 2023 and support advanced development, prototypes and evaluation of medical readiness capabilities. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to inflation.					
Accomplishments/Planned Programs Subtotals	49.534	69.087	71.227	0.000	71.227

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

This program will test and evaluate pharmaceuticals, devices, medical support systems, and medical information technologies in government-managed clinical trials and user assessments to gather data required for military and regulatory requirements prior to production and fielding, to include FDA approval, Environmental Protection Agency registration, and safe-to-fly evaluation.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	Project (Number/Name) 374C / *GDF - Medical Combat Support*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
374C: *GDF - Medical Combat Support*	0.000	43.453	27.150	27.917	0.000	27.917	22.919	18.078	18.418	18.786	Continuing	Continuing

Note

Starting in FY 2022, funding for Project 374C was realigned from Projects 374. This Project is not a new start.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force-Medical Products Support and Advanced Concept Development: This funding supports materiel development of products that provide solutions for the most pressing medical needs of the Warfighter through advanced concept development of medical products that are regulated by the US Food and Drug Administration (FDA); clinical and field validation studies supporting the transition of FDA-licensed and unregulated products and medical practice guidelines to the military operational user; prototyping; risk reduction and product transition efforts for medical information technology applications such as coordination with the Program Execution Offices for integration of medical aspects into other acquisition Programs of Record.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF - Medical Combat Support	43.453	27.150	27.917	0.000	27.917
Description: This funding provides product support and advanced concept development of materiel products that meet the medical needs of the warfighter. Materiel development may include accelerated transition of US Food and Drug Administration (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.					
FY 2023 Plans: Programs will focus on operational support. The Cold Stored Platelets program will continue ongoing Phase 3 clinical studies as well as ongoing in vitro platelet characterization studies. The Non-Compressible Hemorrhage Control program will continue to expand as a family of systems approach to identify potential solutions that would fulfill this gap. Efficacy of developmental items will be evaluated in clinical studies. Plans for a 510(k) FD submission for a product as well as the restart of a clinical trial for another product. Canine Blood Products program plans to continue manufacturing feasibility studies, canine trauma treatment clinical studies; and award a contract for restoration of Oxyglobin production. In addition, efforts will continue for the following programs:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	**Project (Number/Name)** 374C / *GDF - Medical Combat Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Advanced Medical Monitor (formerly integrated Hemorrhage Detection); TBI Assessment & Diagnosis – Mobile Applications; Autonomous Closed Loop Control/Mechanical Ventilation (ACLC/MV). ***FY 2024 Base Plans:*** FY 2024 plans continue efforts as outlined in FY 2023 and support advanced development, prototypes and evaluation of medical combat support capabilities. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to inflation.					
Accomplishments/Planned Programs Subtotals	43.453	27.150	27.917	0.000	27.917

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

This program will test and evaluate pharmaceuticals, devices, medical support systems, and medical information technologies in government-managed clinical trials and user assessments to gather data required for military and regulatory requirements prior to production and fielding, to include FDA approval, Environmental Protection Agency registration, and safe-to-fly evaluation.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	Project (Number/Name) 374D / *GDF - Restoration & Healthcare Systems*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
374D: *GDF - Restoration & Healthcare Systems*	0.000	22.027	26.052	26.080	0.000	26.080	32.595	36.502	37.232	37.977	Continuing	Continuing

Note

Starting in FY 2022, funding for Project 374D was realigned from Projects 374. This Project is not a new start.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force-Medical Products Support and Advanced Concept Development: This funding supports materiel development of products that provide solutions for the most pressing medical needs of the Warfighter through advanced concept development of medical products that are regulated by the US Food and Drug Administration (FDA); clinical and field validation studies supporting the transition of FDA-licensed and unregulated products and medical practice guidelines to the military operational user; prototyping; risk reduction and product transition efforts for medical information technology applications such as coordination with the Program Execution Offices for integration of medical aspects into other acquisition Programs of Record.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF - Restoration & Healthcare Systems	22.027	26.052	26.080	0.000	26.080
Description: This funding provides product support and advanced concept development of materiel products that meet the medical needs of the warfighter. Materiel development may include accelerated transition of US Food and Drug Administration (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. ***FY 2023 Plans:*** Programs will focus on treatments to be used to restore form and function to warfighters as well as improve healthcare. Joint Multi-Channel Infusion Pump program continue TMRR contract execution and plan for initial and final design review. The Post Traumatic Stress Disorder-Drug Treatment program will continue its CAPS-5 Adaptive Platform enabling study; rolling out its Adaptive Platform Trial; and solicit industry partners for Phase 3 clinical trials. The Traumatic Brain Injury-Drug Treatment program plans an adaptive platform master protocol for Phase 2 Clinical Trials on industry exempt on-market generic oral drugs for moderate TBI; plans to enroll first subjects in Q2 and rolling site initiations across 10 sites; continue development efforts and complete IPRs for					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	**Project (Number/Name)** 374D / *GDF - Restoration & Healthcare Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
pipeline novel TBI drug developers. Continue efforts for the Post Traumatic Stress Disorder-Screening Tool and Bacteriophage Treatment for Bacterial Infections programs. ***FY 2024 Base Plans:*** FY 2024 plans continue efforts as outlined in FY 2023 and support advanced development, prototypes and evaluation of medical restoration and healthcare system capabilities. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to inflation.					
Accomplishments/Planned Programs Subtotals	22.027	26.052	26.080	0.000	26.080

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

This program will test and evaluate pharmaceuticals, devices, medical support systems, and medical information technologies in government-managed clinical trials and user assessments to gather data required for military and regulatory requirements prior to production and fielding, to include FDA approval, Environmental Protection Agency registration, and safe-to-fly evaluation.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	Project (Number/Name) 374E / *GDF - Medical Materiel/Medical Biological Defense Equipment Development*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
374E: *GDF - Medical Materiel/ Medical Biological Defense Equipment Development*	0.000	0.000	21.835	24.352	0.000	24.352	24.559	25.163	25.417	25.926	Continuing	Continuing

A. Mission Description and Budget Item Justification

Funding and mission realignment of US Army Medical Research and Development Command transfer to the Defense Health Agency in order to meet Congressional intent as outlined in NDAA 2019 (Section 711) and NDAA 2020 (Section 737) in support of Medical Materiel/Medical Biological Defense Equipment Development.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF - Medical Materiel/Medical Biological Defense Equipment Development	0.000	21.835	24.352	0.000	24.352
Description: Programmatic transfer in accordance with the 711/737 US Army Medical Research and Development Command transfer to Defense Health Agency in support of Medical Materiel/Medical Biological Defense Equipment Development from Army PE 0603807A. Funding is provided for engineering and manufacturing development of medical devices and blood products in support of enhanced combat casualty care and for the development of candidate medical countermeasures for military relevant infectious disease focusing on prevention and treatment to increase medical readiness. This project provides for the advanced product development and prototyping of Army lifesaving medical field systems. ***FY 2023 Plans:*** Programs will focus on advanced component development, test and evaluation in support of Medical Materiel/ Medical Biological Defense Equipment Development. ***FY 2024 Base Plans:*** Programs will focus on advanced component development, test and evaluation in support of medical materiel/ medical biological defense equipment and therapeutics development. Significant FY24 Programs: Temporary Corneal Repair, Burn Treatment Skin Repair, and Rapid Human Diagnostics. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase supports technology maturation in the area of wound prevention and treatments development.					
Accomplishments/Planned Programs Subtotals	0.000	21.835	24.352	0.000	24.352

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	**Project (Number/Name)** 374E / *GDF - Medical Materiel/Medical Biological Defense Equipment Development*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	Project (Number/Name) 434A / *Air & Space Medical Readiness Advanced Concept Development (AF)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
434A: *Air & Space Medical Readiness Advanced Concept Development (AF)*	12.080	4.010	4.245	4.330	0.000	4.330	4.417	4.505	4.596	4.688	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project focuses on coordinating the activities to rapidly field advanced medical capabilities to meet the needs of warfighters while bridging the gap between science and technology (S&T) and advanced development, procurement, fielding, and sustainment. This project enables the fielding of advanced medical capabilities (Technology Readiness Level-TRL 5-8) to address the vital medical readiness needs of our Airmen. Development, modification, and modernization projects emphasize technologies supporting the Air Force (AF) Surgeon General's aerospace & operational medicine and medical readiness priorities. This project ensures viability of S&T and translational research efforts with materiel components by providing programmed funding for logical progression and transition of those activities into the product development lifecycle and into the hands of AF operational end-users.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Air & Space Medical Readiness Advanced Concept Development (AF)	4.010	4.245	4.330	0.000	4.330
Description: This project ensures balance, rigor, and timely fielding of medical capabilities in the AF Advanced Development portfolio. This project focuses on the advancement of Technical Maturation and Risk Reduction (TMRR) and Engineering and Manufacturing Development (EMD) for prototypes and production representative units respectively that address AF capability gaps in aerospace and operational medicine and medical readiness.					
FY 2023 Plans: Two to three new materiel efforts are projected for FY23; additionally, three projects are continuing from previous fiscal years focused on restoring blood flow to extremities, hand-held diagnostics, and consolidation of vision testing into a single device. Incoming projects are geared towards closing capability gaps related to hemorrhage control which is the leading cause of mortality in operational environments and total exposure health to mitigate the exposure of our warfighters to hazardous particles and compounds.					
FY 2024 Base Plans: Approximately four new projects are expected to transition to materiel development in FY24 along with funding of follow-on requirements for current projects related to total exposure health. Continued engagement with industry partners to ascertain industry to government opportunities to rapidly facilitate medical products to our Manpower					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	**Project (Number/Name)** 434A / *Air & Space Medical Readiness Advanced Concept Development (AF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
and Force Equipment Packaging (MEPFAKs) and Major Commands (MAJCOMs) will continue to expand the portfolio. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increase due to inflation.					
Accomplishments/Planned Programs Subtotals	4.010	4.245	4.330	0.000	4.330

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Partnerships with Defense Health Agency/Component Acquisition Executive (DHA/CAE), the U.S. Army Medical Research & Development Command (USAMRMC), U.S. Army Medical Research Acquisition Activity (USAMRAA), Navy Medical Research Center (NMRC), Air Force Research Laboratory (AFRL), Air Force Life Cycle Management Center (AFLCMC), Department of the Interior (interagency cooperative agreements and use award of delivery orders and task assignments) and medical technology consortiums to perform engineering, manufacturing, and prototype development Indefinite Delivery, Indefinite Quality (IDIQ) vehicles to include those awarded under Small Business Innovation Research (SBIR) phase III provisions. Utilization of SBIR program direct awards for Phase III transition efforts and a Cooperative Agreement structure through foundations supporting military medical research and development programs. Will utilize industry-standard project management processes and DoD Acquisition process managed by the AFLCMC, Wright-Patterson AFB.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency											Date: March 2023	
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0605013DHA *I Information Technology Development*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	42.048	10.471	9.834	10.033	0.000	10.033	10.234	10.259	10.464	10.673	Continuing	Continuing
239H: *IM/IT Test Bed (Air Force) at DHA*	8.124	0.697	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
423C: *Defense Center of Excellence (T2T/PBH TERM) (DHA)*	3.285	0.466	0.411	0.411	0.000	0.411	0.411	0.000	0.000	0.000	Continuing	Continuing
480D: *Defense Occupational and Environmental Health Readiness System - Industrial Hygiene (DOEHRS-IH) (Tri-Service)*	17.939	8.384	8.309	8.484	0.000	8.484	8.662	9.074	9.255	9.440	Continuing	Continuing
482A: *E-Commerce (DHA)*	12.700	0.924	1.114	1.138	0.000	1.138	1.161	1.185	1.209	1.233	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Army Medical Command received PE 0605013 funding to identify, explore, and demonstrate key technologies to overcome medical and military unique technology barriers. Programs include Army service level support for the Medical Operational Data System (MODS); Army Medicine CIO Management Operations; Psychological and Behavioral Health – Tools for Evaluation, Risk, and Management (PBH-TERM); Pharmacovigilance Defense Application System (PVDAS); Mobile HealthCare Environment (MHCE); and the Defense Center of Excellence (DCoE).

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.

Defense Health Agency (DHA) Health Information Technology (HIT) [previously known as Tri-Service IM/IT] - DHA HIT RDT&E activities includes funding for development/integration, modernization, test and evaluation for the Defense Health Agency initiatives, and any special interest that are shared within all centralized components of the Defense Health Program (DHP). HIT initiatives currently using RDT&E funding include: Defense Occupational and Environmental Health Readiness System – Industrial Hygiene (DOEHRS-IH) and Defense Center of Excellence (Telehealth and Technology Toolkit (T2T)).

The DHP RDT&E appropriation includes the following DHA initiatives: Electronic Commerce System (E-Commerce). E-Commerce 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

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0605013DHA *I Information Technology Development*

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.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	10.866	9.834	10.033	-	10.033
Current President's Budget	10.471	9.834	10.033	-	10.033
Total Adjustments	-0.395	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.395	-			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013DHA / *Information Technology Development*	Project (Number/Name) 239H / *IM/IT Test Bed (Air Force) at DHA*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
239H: *IM/IT Test Bed (Air Force) at DHA*	8.124	0.697	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

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.

Previously reported under initiative IM/IT Test Bed (Air Force) Project Code 239F.
Operational control of funding was transferred from Air Force Medical Information Technology (IT) to Defense Health Agency Health Information Technology (DHA HIT) with the stand up of Defense Health Agency beginning in FY16. However, functionality for operational testing will remain with Air Force Medical IT.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Operational Testing Service	0.697	0.000	0.000	0.000	0.000
Description: A dedicated operational testing service, Test Bed conduct tests on various Air Force Medical Systems (AFMS). It provides risk controlled testing for designated core & interim medical applications in an operationally realistic environment. ***FY 2023 Plans:*** Realignment of funding from RDT&E to O&M based on transitioning requirements. ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease due to realignment of funding from RDT&E to O&M based on transitioning requirements.					
Accomplishments/Planned Programs Subtotals	0.697	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013DHA / *Information Technology Development*	**Project (Number/Name)** 239H / *IM/IT Test Bed (Air Force) at DHA*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Operational control of funding was transferred from Air Force Medical Information Technology (IT) to Defense Health Agency Health Information Technology (DHA HIT) with the stand up of Defense Health Agency beginning in FY16. However, functionality for operational testing will remain with Air Force Medical IT.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013DHA / *Information Technology Development*	Project (Number/Name) 423C / *Defense Center of Excellence (T2T/ PBH TERM) (DHA)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
423C: *Defense Center of Excellence (T2T/PBH TERM) (DHA)*	3.285	0.466	0.411	0.411	0.000	0.411	0.411	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

T2T increases mobile access and continues the advancement of care through use of toolkit components in the areas of public health and telehealth that can be used both within and outside of the DoD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Defense Center of Excellence (DHA) T2T and PBH TERM	0.466	0.411	0.411	0.000	0.411
Description: Telehealth and Technology Toolkit (T2T):This project will organize a toolkit of components in the areas of PH and telehealth that can be used both within and outside DoD. The focus of the toolkit is NOT to develop duplicative components, but allow room for collaboration and remote access to tools. The T2 Toolkit consists of mobile applications, 3-Dimensional applications (apps) , and supporting websites. These applications will combine to create a system that covers many areas of Psychological Health (PH) for the Department of Defense, family members. ***FY 2023 Plans:*** Satisfy the requirements of the functional community and development and modernization support to DHA to include the development of mobile applications. ***FY 2024 Base Plans:*** Will continue software development and significant enhancements to existing software. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Will continue software development and significant enhancements to existing software.					
Accomplishments/Planned Programs Subtotals	0.466	0.411	0.411	0.000	0.411

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013DHA / *Information Technology Development*	**Project (Number/Name)** 423C / *Defense Center of Excellence (T2T/ PBH TERM) (DHA)*

C. Other Program Funding Summary ($ in Millions)

Remarks

N/A

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.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013DHA / *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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
480D: *Defense Occupational and Environmental Health Readiness System - Industrial Hygiene (DOEHRS-IH) (Tri-Service)*	17.939	8.384	8.309	8.484	0.000	8.484	8.662	9.074	9.255	9.440	Continuing	Continuing

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 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Defense Occupational and Environmental Health Readiness System - Industrial Hygiene (DOEHRS-IH) (Tri-Service)	8.384	8.309	8.484	0.000	8.484
Description: Configure, enhance, and interface DOEHRS-IH modules.					
FY 2023 Plans: Will continue software development and significant enhancements to existing software to include implementation of a DOEHRS-IH HAZMAT/SDS capability, DOEHRS-IH to DOEHRS-HC Interface, DOEHRS-IH Interface Design/Development to the Defense Medical Logistics – Enterprise Solution (DML-ES), Thermal Stress Design/ Development, Confined Spaces Design/Development and Critical User Enhancements.					
FY 2024 Base Plans: Will continue software development and significant enhancements to existing software to include implementation of a DOEHRS-IH HAZMAT/SDS capability, DOEHRS-IH to DOEHRS-HC Interface, DOEHRS-IH Interface					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013DHA / *Information Technology Development*	**Project (Number/Name)** 480D / *Defense Occupational and Environmental Health Readiness System - Industrial Hygiene (DOEHRS-IH) (Tri-Service)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Design/Development to the Defense Medical Logistics – Enterprise Solution (DML-ES), Thermal Stress Design/ Development, Confined Spaces Design/Development and Critical User Enhancements. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** New budget year added for the FY24 budget cycle; Increase is to continue DOEHRS-IH software development and significant enhancements to existing software to include implementation of a DOEHRS-IH HAZMAT/SDS capability, DOEHRS-IH to DOEHRS-HC Interface, DOEHRS-IH Interface Design/Development to the Defense Medical Logistics – Enterprise Solution (DML-ES), Thermal Stress Design/Development, Confined Spaces Design/Development and Critical User Enhancements.					
Accomplishments/Planned Programs Subtotals	8.384	8.309	8.484	0.000	8.484

C. Other Program Funding Summary ($ in Millions)

N/A

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.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013DHA / *Information Technology Development*	Project (Number/Name) 482A / *E-Commerce (DHA)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
482A: *E-Commerce (DHA)*	12.700	0.924	1.114	1.138	0.000	1.138	1.161	1.185	1.209	1.233	Continuing	Continuing

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: E-Commerce (DHA)	0.924	1.114	1.138	0.000	1.138
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-					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013DHA / *Information Technology Development*	**Project (Number/Name)** 482A / *E-Commerce (DHA)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
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. ***FY 2023 Plans:*** Plans include more modernization to healthcare financial processing, contracts, and reporting as well as adapting to health care policy and guidance ***FY 2024 Base Plans:*** Will continue to modernize the Electronic Commerce System for contracts, and reporting as well as adapting to health care policy and guidance. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to inflation growth.					
Accomplishments/Planned Programs Subtotals	0.924	1.114	1.138	0.000	1.138

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• BA-1, 0807752HP: *Miscellaneous Support Activities*	0.135	0.138	-	-	-	-	-	-	-	Continuing	Continuing
• BA-3, 0807721HP: *Replacement/Modernization*	0.583	0.595	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0605026DHA *I Information Technology Development - DoD Healthcare Management System Modernization (DHMSM)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	60.107	15.176	12.024	12.264	0.000	12.264	6.144	6.038	5.141	5.244	Continuing	Continuing
483A: *Information Technology Development - DoD Healthcare Management System Modernization (DHMSM) at DHA*	60.107	15.176	12.024	12.264	0.000	12.264	6.144	6.038	5.141	5.244	Continuing	Continuing

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): 496

A. Mission Description and Budget Item Justification

DHMSM will replace the DoD legacy healthcare management systems with a commercial off-the-shelf capability that is open, modular, and standards-based with non-proprietary interfaces. DHMSM will support the Department's goals of net- centricity by providing a framework for full human and technical connectivity and interoperability that allows DoD users and mission partners to share the information they need, when they need it, in a form they can understand and act on with confidence, and protects information from those who should not have it. Once fielded, the Electronic Health Record (EHR) will support the following healthcare activities for DoD's practitioners and beneficiaries:

- Clinical workflow and provider clinical decision support
- Capture, maintain, use, protect, preserve and share health data and information
- Retrieval and presentation of health data and information that is meaningful for EHR users regardless of where the patient's records are physically maintained
- Analysis and management of health information from multiple perspectives to include population health, military medical readiness, clinical quality, disease management, and medical research

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	15.751	12.024	12.264	0.000	12.264
Current President's Budget	15.176	12.024	12.264	0.000	12.264
Total Adjustments	-0.575	0.000	0.000	0.000	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.575	-			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605026DHA / *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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
483A: *Information Technology Development - DoD Healthcare Management System Modernization (DHMSM) at DHA*	60.107	15.176	12.024	12.264	0.000	12.264	6.144	6.038	5.141	5.244	Continuing	Continuing

Project MDAP/MAIS Code: 496

A. Mission Description and Budget Item Justification

The DHMSM program acquired an integrated inpatient/outpatient Best of Suite (BoS) electronic health record (EHR) solution, augmented by the Best of Breed (BoB) product(s). The 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. The anticipated benefits include: improved accuracy of diagnoses and medication; improved impact on health outcomes; increased patient participation in the healthcare process; improved patient-centered care coordination; and increased practice efficiencies in all settings, including all DoD operational environments.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: DoD Healthcare Management System Modernization (DHMSM) Program	15.176	12.024	12.264	0.000	12.264
Description: DHMSM will replace the DoD legacy healthcare management systems with a commercial off-the-shelf capability that is open, modular, and standards-based. DHMSM will support the Department's goals of net-centricity by providing a framework for full human and technical connectivity and interoperability that allows DoD users and mission partners to share the information they need, when they need it, in a form they can understand and act on with confidence, and protects information from those who should not have it. Once fielded, the EHR will support the following healthcare activities for DoD's practitioners and beneficiaries: • Clinical workflow and provider clinical decision support; • Capture, maintain, use, protect, preserve and share health data and information; • Retrieval and presentation of health data and information that is meaningful for EHR users regardless of where the patient's records are physically maintained; and • Analysis and management of health information from multiple perspectives to include population health, military medical readiness, clinical quality, disease management, and medical research.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605026DHA / *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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
FY 2023 Plans: • Conduct Test Planning of new interfaces, patches, and of semi-annual releases. • Support configuration efforts for approved enhancements. ***FY 2024 Base Plans:*** • Conduct Test Planning of new interfaces, patches, and of semi-annual releases. • Support configuration efforts for approved enhancements. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Fact of life increase due to inflation.					
Accomplishments/Planned Programs Subtotals	15.176	12.024	12.264	0.000	12.264

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0605045DHA *I Joint Operational Medicine Information System (JOMIS)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	137.200	51.016	18.082	18.731	0.000	18.731	21.984	23.014	24.273	24.758	Continuing	Continuing
477A: *Joint Operational Medicine Information System (JOMIS)*	137.200	51.016	18.082	18.731	0.000	18.731	21.984	23.014	24.273	24.758	Continuing	Continuing

Program MDAP/MAIS Code: 521

A. Mission Description and Budget Item Justification

The Joint Operational Medicine Information Systems (JOMIS) Portfolio Program will acquire solutions to modernize, deploy, and sustain the Department of Defense's (DoD) operational medicine (OpMed) information systems (IS) capabilities. OpMed systems provide commanders and medical professionals with integrated, timely, and accurate information to make critical command and control and medical decisions. These operational systems will function in constrained, intermittent, and non-existent communications environments while providing access to authoritative sources of clinical data. The JOMIS Program is a declared Joint Interest for capability requirements executed under the Adaptive Acquisition Framework.

JOMIS will pursue efforts that allow it to sunset costly and difficult to maintain legacy systems in conjunction with functional Subject Matter Experts (SME), Service representatives, Combatant Commanders (CCMD), and the Defense Health Agency's (DHA) Joint Chiefs of Staff (J6) Solutions Delivery Division and Cyber Divisions. The Theater Medical Information Requirement Information Systems Capabilities Development Document (TMIR IS CDD) and the Joint Requirements Oversight Council Memorandum (JROCM)signed February 28, 2017 document the knowledge management capabilities required to enable the following health care functions: Health Care Delivery (HCD), Medical Logistics (MedLOG), Medical Command and Control (MedC2), Medical Situational Awareness (MedSA) and Patient Movement.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	52.948	18.082	18.731	0.000	18.731
Current President's Budget	51.016	18.082	18.731	0.000	18.731
Total Adjustments	-1.932	0.000	0.000	0.000	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.932	-			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605045DHA / *Joint Operational Medicine Information System (JOMIS)*	Project (Number/Name) 477A / *Joint Operational Medicine Information System (JOMIS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
477A: *Joint Operational Medicine Information System (JOMIS)*	137.200	51.016	18.082	18.731	0.000	18.731	21.984	23.014	24.273	24.758	Continuing	Continuing

A. Mission Description and Budget Item Justification

The purpose of JOMIS is to modernize, deploy, and sustain the DoD's OpMed IS capabilities that enable comprehensive health services to meet Warfighter requirements for military medical operations. JOMIS is intended to function in constrained, intermittent, and non-existent communications environments while providing access to authoritative sources of clinical data.

There are technological and business challenges to the OpMed mission including aged technology, inefficient design standards, overreliance on obsolete code, lack of automation, different deployment methods by Services that impacts standard user adoption, inefficient and overly-bureaucratic acquisition methods, and the lack of unified functional user input. To mitigate these challenges, JOMIS has planned the following actions:

• Translate the TMIR IS CDD into a modern Portfolio Capability Roadmap that can be abstracted down to needs statements, personas, and user stories that can inform leading-edge design practices
• Construct program governance that can be achieved through external consultancy and resource investment into an Operational Medicine Functional Champion (OMFC) to create a high achieving team that envisions the future of OpMed capabilities as they are integrated with DoD and Federal medical data landscapes
• Leverage experiential learning on current innovative projects that provide ample opportunities to explore modern software delivery methods that can create and endure software delivery environments that evolve with the OpMed mission
• Take advantage of industry and DoD best practices to evolve and perfect development methods (e.g., Agile and Development Security Operations) which will facilitate the ability to "continuously integrate" and "continuously deliver" capability throughout the software development life cycle.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Joint Operational Medicine Information System (JOMIS)	51.016	18.082	18.731	0.000	18.731
Description: Specific contribution to mission delivery: The JOMIS Portfolio Program will acquire solutions to modernize, deploy, and sustain the DoD's OpMed IS capabilities. OpMed systems provide commanders and medical professionals with integrated, timely, and accurate information to make critical command and control and medical decisions. These operational systems will function in constrained, intermittent, and non-existent communications environments while providing access to authoritative sources of clinical data.					
FY 2023 Plans: • Continue to execute OpMed Capability Roadmap					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605045DHA / *Joint Operational Medicine Information System (JOMIS)*	**Project (Number/Name)** 477A / *Joint Operational Medicine Information System (JOMIS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
• Continue development of Operational Medicine Data Service (OMDS) and will deliver first Minimum Viable Capability Release (MVCR) • Continue new Healthcare Delivery (HCD) capability development, system integration and testing activities including development of MHS GENESIS-Theater and Theater Blood Management system • Complete development of MedCOP EUCOM dashboard in accordance with Operational Medicine Functional Champion priority • Conduct Test Planning of new interfaces, patches, and Minimum Viable Capability releases (MVCR) ***FY 2024 Base Plans:*** • Continue to execute OpMed Capability Roadmap • Continue development of Operational Medicine Data Service (OMDS) additional MVCR • Continue new Healthcare Delivery (HCD) capability development, system integration and testing activities including development of MHS GENESIS-Theater and Theater Blood Management system. • Conduct Test Planning of new interfaces, patches, and Minimum Viable Capability releases (MVCR). ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** No significant changes other than inflation adjustment.					
Accomplishments/Planned Programs Subtotals	51.016	18.082	18.731	0.000	18.731

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

n/a

D. Acquisition Strategy

In FY21 JOMIS received approval of a new Acquisition Strategy from its Milestone Decision Authority (MDA). The FY21 Overarching Portfolio Acquisition Strategy allows JOMIS to acquire solutions across all five Healthcare functions as described in the TMIR IS CDD. Further, the Portfolio Acquisition Strategy allows JOMIS to utilize the Adaptive Acquisition Framework and the Software Pathway of Acquisition to continuously enhance existing capabilities and deliver new capabilities prioritized by the OpMed Functional Community. The Portfolio Acquisition Strategy ensures that the JOMIS Program will evaluate and use the most appropriate business, technical, contract and support strategies, and acquisition approaches to minimize costs, reduce program risks, and remain within the schedule while meeting program objectives.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency											Date: March 2023	
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0605145DHA *I Medical Products and Support Systems Development*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	65.786	20.775	64.030	58.712	0.000	58.712	58.102	62.395	63.256	64.523	Continuing	Continuing
500A: *CSI - Congressional Special Interests*	5.351	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
375: *GDF - Medical Products and Support System Development*	60.435	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
375A: *GDF - Medical Simulation and Training*	0.000	2.000	2.000	2.000	0.000	2.000	2.000	2.000	2.040	2.081	Continuing	Continuing
375B: *GDF - Medical Readiness*	0.000	10.000	5.125	5.674	0.000	5.674	5.967	7.490	7.641	7.794	Continuing	Continuing
375C: *GDF - Medical Combat Support*	0.000	8.775	13.871	14.683	0.000	14.683	14.838	13.770	14.045	14.326	Continuing	Continuing
375D: *GDF - Medical Products and Support System Development*	0.000	0.000	43.034	36.355	0.000	36.355	35.297	39.135	39.530	40.322	Continuing	Continuing

A. Mission Description and Budget Item Justification

Guidance for Development of the Force – Medical Products and Support Systems Development: This program element (PE) provides funding for system development and demonstration of medical commodities delivered from the various medical advanced development and prototyping Department of Defense (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 for products that require US Food and Drug Administration approval.

Development, test, and evaluation in this PE is designed to address requirements identified through the Joint Capabilities Integration and Development System and other Department of Defense operational needs. Medical development, test, and evaluation priorities for the Defense Health Program (DHP) are guided by, and will support, the National Defense Strategy, the Joint Staff Surgeon's Joint Concept for Health Services, and other overarching DoD strategic framework documents.

Coordination occurs through the planning and execution activities of the Defense Health Agency Component Acquisition Executive (DHA CAE) as the Milestone Decision Authority for medical materiel development efforts. As technologies mature, the most promising efforts will transition to production and deployment.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0605145DHA *I Medical Products and Support Systems Development*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	21.489	64.030	58.712	-	58.712
Current President's Budget	20.775	64.030	58.712	-	58.712
Total Adjustments	-0.714	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.714	-			

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 375D: *GDF - Medical Products and Support System Development*		
Congressional Add: *GDF - Medical Products and Support System Development*	0.000	-
Congressional Add Subtotals for Project: 375D	0.000	-
Congressional Add Totals for all Projects	0.000	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605145DHA / *Medical Products and Support Systems Development*	Project (Number/Name) 500A / *CSI - Congressional Special Interests*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
500A: *CSI - Congressional Special Interests*	5.351	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

In FY 2019, the Defense Health Program funded Congressional Special Interest (CSI) directed research. The strategy for the FY 2018 Congressionally-directed research program is to stimulate innovative research through a competitive, focused, peer-reviewed medical research at intramural and extramural research sites. Because of the CSI annual structure, out-year funding is not programmed.

B. Accomplishments/Planned Programs ($ in Millions)

N/A

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605145DHA / *Medical Products and Support Systems Development*	Project (Number/Name) 375 / *GDF - Medical Products and Support System Development*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
375: *GDF - Medical Products and Support System Development*	60.435	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Note

Starting in FY2022, Project 375 was realigned into Projects 375A, 375B, and 375C.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force-Medical Products and Support Systems Development: This funding supports materiel development activities that further system development and demonstration prior to initial full rate production and fielding of commodities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF - Medical Products and Support Systems Development (GDF-MPSSD)	0.000	0.000	0.000	0.000	0.000
Description: GDF-Medical Products and Support Systems Development: This funding supports activities 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). Materiel development may include accelerated transition of US Food and Drug Administration (FDA)-licensed and unregulated products through clinical and field validation studies, advanced prototyping, risk reduction, operational test and evaluation, manufacturing, and product transition efforts for medical information technology applications and medical training systems technologies. ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605145DHA / *Medical Products and Support Systems Development*	**Project (Number/Name)** 375 / *GDF - Medical Products and Support System Development*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605145DHA / *Medical Products and S upport Systems Development*	Project (Number/Name) 375A / *GDF - Medical Simulation and Training*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
375A: *GDF - Medical Simulation and Training*	0.000	2.000	2.000	2.000	0.000	2.000	2.000	2.000	2.040	2.081	Continuing	Continuing

Note

Starting in FY 2022, Project 375A was realigned from Project 375. This Project is not a new start.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force-Medical Simulation and Training: This funding supports material development activities that enhance system development and demonstration prior to initial full rate production and fielding of capabilities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF - Medical Simulation and Training	2.000	2.000	2.000	0.000	2.000
Description: GDF-Medical Products and Support Systems Development: This funding enhances activities to support system development and demonstration prior to initial full rate production and fielding of medical simulation delivered from 0604110HP (Medical Simulation and Training, Advanced Concept Development). Materiel development may include accelerated transition of Medical Simulation products through clinical and field validation studies, advanced prototyping, risk reduction, operational test and evaluation, manufacturing, and product transition efforts for medical information technology applications and medical training systems technologies.					
FY 2023 Plans: Programs will focus on development and application of medical simulation and training capabilities for hospital care and operations. Medical Simulation Training Systems will begin to develop standardized training capabilities for point of injury, trauma simulation, hospital training, along with a common platform architecture that improves medical care across the DoD.					
FY 2024 Base Plans: FY2024 plans continue efforts as outlined in FY 2023 and support the development and demonstration of medical simulation capabilities.					
FY 2024 OCO Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605145DHA / *Medical Products and Support Systems Development*	**Project (Number/Name)** 375A / *GDF - Medical Simulation and Training*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
No increase from FY23 to FY24.					
Accomplishments/Planned Programs Subtotals	2.000	2.000	2.000	0.000	2.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

This program will test and evaluate medical simulation products and platforms developed in order to review data for operational and clinical use prior to production and fielding.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605145DHA / *Medical Products and Support Systems Development*	Project (Number/Name) 375B / *GDF - Medical Readiness*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
375B: *GDF - Medical Readiness*	0.000	10.000	5.125	5.674	0.000	5.674	5.967	7.490	7.641	7.794	Continuing	Continuing

Note

Starting in FY 2022, Project 375B was realigned from Project 375. This Project is not a new start.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force-Medical Readiness: This funding supports material development activities that enhance system development and demonstration prior to initial full rate production and fielding of capabilities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF - Medical Readiness	10.000	5.125	5.674	0.000	5.674
Description: GDF-Medical Readiness: This funding enhances activities to support system development and demonstration prior to initial full rate production and fielding of medical readiness capability delivered from 0604110HP (Medical Readiness, Advanced Concept Development). Materiel development may include accelerated transition of Medical Readiness products through clinical and field validation studies, advanced prototyping, risk reduction, operational test and evaluation, manufacturing, and product transition efforts for medical information technology applications and medical readiness systems technologies.					
FY 2023 Plans: Programs will focus on prevention of illness and injury along with optimization of human performance. The Health Readiness and Performance System will continue to refine technologies including wearable sensors to monitor non-diagnostic physiologic date in real-time to improve Warfighter health, readiness and performance, reduce casualties, and increase situational awareness. The program will transition wearable system programs under its integrated system; COVID-19 pilot study using algorithms developed to provide early warning of COVID-19 infection. The Enterotoxigenic E. Coli Vaccine program plans to continue development on the only FDA-approved preventative vaccine providing protection from 90% of ETEC strains. In FY23, the program will hold an End of Phase 2 meeting with the FDA, award an EMD phase contract, initiate Phase 3 clinical study, and continue planning for a Controlled Human Infection Model. The Breath Test for Pulmonary Oxygen Toxicity program seeks to test for pulmonary oxygen toxicity in order to enhance oxygen supplementation, which is used					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605145DHA / *Medical Products and Support Systems Development*	**Project (Number/Name)** 375B / *GDF - Medical Readiness*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
widely to support clinical and operational efforts within the DOD. In FY23, the program will continue integration and development testing and plans to increase its TRL level. ***FY 2024 Base Plans:*** FY2024 plans continue efforts as outlined in FY 2023 and support the development and demonstration of medical readiness capabilities. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** No increase from FY23 to FY24.					
Accomplishments/Planned Programs Subtotals	10.000	5.125	5.674	0.000	5.674

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

This program will test and evaluate medical products in government-managed clinical trials in order to gather data to meet military and regulatory (e.g., FDA, Environmental Protection Agency) requirements for production and fielding.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605145DHA / *Medical Products and S upport Systems Development*	Project (Number/Name) 375C / *GDF - Medical Combat Support*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
375C: *GDF - Medical Combat Support*	0.000	8.775	13.871	14.683	0.000	14.683	14.838	13.770	14.045	14.326	Continuing	Continuing

Note

Starting in FY 2022, Project 375C was realigned from Project 375. This Project is not a new start.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force-Medical Combat Support: This funding supports material development activities that enhance system development and demonstration prior to initial full rate production and fielding of capabilities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF - Medical Combat Support	8.775	13.871	14.683	0.000	14.683
Description: GDF-Medical Combat Support: This funding enhances activities to support system development and demonstration prior to initial full rate production and fielding of medical readiness capability delivered from 0604110HP (Medical Combat Support, Advanced Concept Development). Materiel development may include accelerated transition of Medical Combat Support products through clinical and field validation studies, advanced prototyping, risk reduction, operational test and evaluation, manufacturing, and product transition efforts for medical information technology applications and medical combat support systems technologies.					
FY 2023 Plans: The Traumatic Brain Injury Assessment & Diagnosis – Mobile Applications program is being developed to offer a suite of applications on a mobile device to assess and monitor SMs after a suspected traumatic brain injury event, suspected psychological health event, and/or an event linked to cognitive impairment. In FY23, the program will continue platform development for the integration of mobile apps based on validated requirements and end user feedback. The Battlefield Pain Management – Ketamine Program seeks to continue development on a rapid-acting non-opioid treatment to combat battlefield pain during tactical field care and casualty evacuation with a superior safety profile compared to conventionally used opioid pain medications. In FY23, the program will submit its CDD into staffing, meet with the FDA for a Clinical Hold Type A meeting, and initiate non-clinical toxicology studies.					
FY 2024 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605145DHA / *Medical Products and Support Systems Development*	**Project (Number/Name)** 375C / *GDF - Medical Combat Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
FY2024 plans continue efforts as outlined in FY 2023 and support the development and demonstration of medical combat support capabilities. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to inflation program growth.					
Accomplishments/Planned Programs Subtotals	8.775	13.871	14.683	0.000	14.683

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

This program will test and evaluate medical products in government-managed clinical trials in order to gather data to meet military and regulatory (e.g., FDA, Environmental Protection Agency) requirements for production and fielding.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605145DHA / *Medical Products and Support Systems Development*	Project (Number/Name) 375D / *GDF - Medical Products and Support System Development*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
375D: *GDF - Medical Products and Support System Development*	0.000	0.000	43.034	36.355	0.000	36.355	35.297	39.135	39.530	40.322	Continuing	Continuing

A. Mission Description and Budget Item Justification

Funding and mission realignment of US Army Medical Research and Development Command transfer to the Defense Health Agency in order to meet Congressional intent as outlined in NDAA 2019 (Section 711) and NDAA 2020 (Section 737) in support of Medical Products and Support System Development.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF - Medical Products and Support System Development	0.000	43.034	36.355	0.000	36.355
Description: Programmatic transfer in accordance with the 711/737 US Army Medical Research and Development Command transfer to Defense Health Agency in support of Medical Products and Support System Development from Army PEs 0604807A. Funding is provided for engineering and manufacturing development of diagnostic devices, medical products for enhanced combat casualty care and follow on products, including blood products and for the development of candidate medical countermeasures for military relevant infectious diseases focusing on prevention and treatment to increase medical readiness. Funding supports both technical evaluations and human clinical testing to assure the safety and effectiveness of vaccines, drugs and medical devices.					
FY 2023 Plans: Programs will focus on System Development and Demonstration in support of Medical Products and Support Systems.					
FY 2024 Base Plans: Programs will focus on system development and demonstration in support of medical solutions. Significant FY24 Programs: Freeze Dried Plasma, Ultrasound Field Portable, Cryopreserved Platelets, and Malaria Treatment Drug - Intravenous Artesunate.					
FY 2024 OCO Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605145DHA / *Medical Products and Support Systems Development*	**Project (Number/Name)** 375D / *GDF - Medical Products and Support System Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Funding decrease for this Project was due to a realignment of the development mission.					
Accomplishments/Planned Programs Subtotals	0.000	43.034	36.355	0.000	36.355

	FY 2022	FY 2023
Congressional Add: GDF - Medical Products and Support System Development ***FY 2022 Accomplishments:*** N/A	0.000	-
Congressional Adds Subtotals	0.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0605039DHA *I DoD Medical Information Exchange and Interoperability*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	10.157	0.000	10.156	8.013	0.000	8.013	8.173	8.337	8.504	8.674	Continuing	Continuing
458A: *Defense Medical Information Exchange (DMIX) / Enterprise Intelligence and Data Solutions (EIDS)*	10.157	0.000	10.156	8.013	-	8.013	8.173	8.337	8.504	8.674	Continuing	Continuing

Note

FY23 transfer from BA-08: Software and Digital Technology Pilot Programs.
FY24-28 funding realigned from BA-08 to comply with congressional direction to refrain from starting any new Software Pilot Programs.

A. Mission Description and Budget Item Justification

DoD Medical Information Exchange (DMIX) –The Defense Medical Information Exchange (DMIX) Program supports the seamless exchange of standardized health data among Department of Defense, Department of Veterans Affairs, other federal agencies, private sector healthcare providers, and benefits administrators. DMIX provides the capability for healthcare providers to access and view comprehensive and current patient health records from a variety of data sources which enable healthcare providers to responsively make more informed patient care decisions.

Enterprise Intelligence & Data Solutions (EIDS) – The EIDS program supports MHS strategic goals and facilitates informed decision-making through the delivery of vital information services and data in a timely, relevant, and actionable manner. EIDS has become the nexus of all Military Health System (MHS) secondary data and the core data broker and provider for most clinical and operational medical systems across the enterprise. The EIDS PMO strives to execute the DHA Data Vision of providing seamless data services and decision support for clinicians, patients, beneficiaries, analysts, researchers, and DoD leadership to improve patient care through the MIP. EIDS Military Health System Information Platform (MIP) enclave integrates over 130 data sources, 50+ clinical registries and rationalized over 22 data warehouses, 18 applications over the last 4 years. In addition, it supports a set of DoD legacy systems and projects that aim to increase data interoperability and access to electronic health data via digital health hub serving up health care data to DoD and Federal partners. The MIP provides a core clinical research platform for self-service business intelligence and is building an artificial intelligence and machine learning workbench. Additionally, EIDS is building the first secure cloud-based genomics platform for the DoD. A fully funded EIDS initiative brings together data, information technology, and data science, delivering analytics-driven insights for customers driving towards prescriptive analytics, all while meeting the Congressional intent of a fully interoperable health record.

Program transferred from program element 0308608DHA DoD Medical Information Exchange and Interoperability (DMIX) / Enterprise Intelligence and Data Solutions (EIDS) in Budget Activity 08.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency					Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*			R-1 Program Element (Number/Name) PE 0605039DHA *I DoD Medical Information Exchange and Interoperability*		
B. Program Change Summary ($ in Millions)	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**
Previous President's Budget	0.000	0.000	8.013	-	8.013
Current President's Budget	0.000	10.156	8.013	-	8.013
Total Adjustments	0.000	10.156	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	10.156			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

FY23 transfer from BA-08: Software and Digital Technology Pilot Programs.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605039DHA / *DoD Medical Information Exchange and Interoperability*	Project (Number/Name) 458A / *Defense Medical Information Exchange (DMIX) / Enterprise Intelligence and Data Solutions (EIDS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
458A: *Defense Medical Information Exchange (DMIX) / Enterprise Intelligence and Data Solutions (EIDS)*	10.157	0.000	10.156	8.013	-	8.013	8.173	8.337	8.504	8.674	Continuing	Continuing

A. Mission Description and Budget Item Justification

DoD Medical Information Exchange and Enterprise Intelligence & Data Solutions (DMIX/EIDS) Program Management Office PMO will be spending FY24 allocations on development and sustainment of data sources for the Defense Health Agency. DMIX/EIDS supports MHS strategic goals and facilitate informed decision-making through the delivery of robust information services and data in a timely, relevant, and actionable manner. DMIX/EIDS PMO strives to execute the DHA Data Vision of providing seamless data services and decision support for clinicians, patients, beneficiaries, analysts, researchers, and DoD leadership to improve patient care. The PMO manages a vast array of data-related assets, including data warehouses, data virtualization tools, visualization solutions (e.g. CarePoint) and data exchange solutions that in combination makes up a system of systems - Military Health System Information Platform (MIP). DMIX/EIDS focuses on delivering, connecting, and curating data to facilitate informed decision-making across a diverse data ecosystem.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Defense Medical Information Exchange (DMIX) / Enterprise Intelligence and Data Solutions (EIDS)	0.000	10.156	8.013	0.000	8.013
Description: Comprised of the infrastructure and services needed to provide seamless integrated sharing of electronic health data between the DoD, VA, other Federal agencies, and private sector partners that is viewable to DoD and VA providers through a joint viewer. ***FY 2023 Plans:*** Manage the development of new capabilities to support DHAs Data Vision, examples include Biosurveillance and Genomics. New capability development also supports continued portfolio rationalization efforts, examples include Joint Trauma Systems and DoD Trauma Registry consolidation. ***FY 2024 Base Plans:*** For FY24, the EIDS PMO will leverage a consortium of industry partners with specific expertise in developing innovative solutions in Genomics and leveraging machine learning to achieve patient impacting outcomes. Ongoing development of the MIP platform will ensure integration of actionable, ethical Human Genomics research. ***FY 2024 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605039DHA / *DoD Medical Information Exchange and Interoperability*	**Project (Number/Name)** 458A / *Defense Medical Information Exchange (DMIX) / Enterprise Intelligence and Data Solutions (EIDS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The reduction from FY23 to FY24 is a result of the completion of the EIDS DEVSECOPS & CI/CD Pipeline and the shift to Genomics solution development.					
Accomplishments/Planned Programs Subtotals	0.000	10.156	8.013	0.000	8.013

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• BA-1: *PE 0807788: DoD Medical Information Exchange and Interoperability (DMIX)*	118.250	131.612	132.934	0.000	132.934	141.079	107.774	120.495	122.941	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. PEO DHMS is an acquisition organization, reporting to the Under Secretary of Defense for Acquisition and Sustainment.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency											Date: March 2023	
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0606105DHA *I Medical Program-Wide Activities*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	141.054	49.645	85.186	87.096	0.000	87.096	88.425	89.231	90.664	92.475	Continuing	Continuing
376B: *Medical Program-Wide Activity*	0.000	0.000	34.548	35.445	0.000	35.445	35.729	35.485	35.843	36.558	Continuing	Continuing
433A: *NMRC Biological Defense Research Directorate (BDRD) (Navy)*	11.373	3.371	3.479	3.589	0.000	3.589	3.798	3.872	3.949	4.028	Continuing	Continuing
494A: *Medical Development (Lab Support) (Navy)*	129.681	46.274	47.159	48.062	0.000	48.062	48.898	49.874	50.872	51.889	Continuing	Continuing

A. Mission Description and Budget Item Justification

The DHA receives funding for research infrastructure management support at select continental United States and outside the continental US laboratories and clinical trial sites; work is done in collaboration with DoD Military Treatment Facilities. This program element does not fund research. It funds the infrastructure support staff enabling research scientists to conduct bio-surveillance and early-to-late-stage clinical investigations into biologics, drugs, protectants, device technologies, and knowledge products. The funding provides for the sustainment of technical subject matter expertise, independent of the number of assigned projects, and the costs related to the initial outfitting and transition (IO&T) of research, development, test, and evaluation medical laboratories funded under multi-year military construction (MILCON) projects. These IO&T funds are designated as appropriations other than MILCON.

The DHA also receives funding for the Management Headquarters Activity (MHA) Research, Development, Test, and Evaluation (RDTE) functions incident to the local operation and management research 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, and bio-forensic analysis of biological threat agents.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency					Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*		R-1 Program Element (Number/Name) PE 0606105DHA *I Medical Program-Wide Activities*			
B. Program Change Summary ($ in Millions)	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**
Previous President's Budget	49.645	85.186	87.096	-	87.096
Current President's Budget	49.645	85.186	87.096	-	87.096
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0606105DHA / *Medical Program-Wide Activities*	Project (Number/Name) 376B / *Medical Program-Wide Activity*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
376B: *Medical Program-Wide Activity*	0.000	0.000	34.548	35.445	0.000	35.445	35.729	35.485	35.843	36.558	Continuing	Continuing

A. Mission Description and Budget Item Justification

Funding and mission realignment of US Army Medical Research and Development Command transfer to the Defense Health Agency in order to meet Congressional intent as outlined in NDAA 2019 (Section 711) and NDAA 2020 (Section 737) in support of Medical Care Activities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: GDF Medical Program-Wide Activity	0.000	34.548	35.445	0.000	35.445

Description: Programmatic transfer in accordance with the 711/737 US Army Medical Research and Development Command transfer to Defense Health Agency in support of Medical Care Activities from Army PEs 0603115A, 0605145A, 0605801A, 0606105A.

Funding is provided for Medical Research Development Acquisition (RDA) Management and Oversight to include the payroll of civilians as well as nominal operating expense. CONUS Laboratory Infrastructure Support management for research infrastructure at select laboratories and research sites that conduct basic to late-stage clinical research and evaluation of investigational products. OCONUS Laboratory Infrastructure Support management for research infrastructure at selected overseas laboratories and research sites is integral to support the predicting, detecting, preventing, and treating infectious disease threats to the US military.

FY 2023 Plans:

Will fund civilian salaries and associated management and administrative expenses (support contracts, supplies, equipment, travel, etc.). Also, will provide regulatory, clinical monitoring and data support for the SIP as necessary. This program will provide non licensed vaccines under FDA oversight to personnel at risk of exposure to selected infectious diseases. Will fund the CONUS Laboratory Support Clinical Infrastructure project will support efforts for military medical research, as well as sustainment of the administration and infrastructure of CONUS medical research laboratories. Will fund The OCONUS Laboratory Support Clinical Infrastructure project will support sustainment of the administration and infrastructure support at DHA.

FY 2024 Base Plans:

Will fund civilian salaries and associated management and administrative expenses (support contracts, supplies, equipment, travel, etc.). Will fund the CONUS Laboratory Support Clinical Infrastructure project will support

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0606105DHA / *Medical Program-Wide Activities*	**Project (Number/Name)** 376B / *Medical Program-Wide Activity*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
efforts for military medical research, as well as sustainment of the administration and infrastructure of CONUS medical research laboratories. Will fund The OCONUS Laboratory Support Clinical Infrastructure project will support sustainment of the administration and infrastructure support at DHA. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to inflation program growth.					
Accomplishments/Planned Programs Subtotals	0.000	34.548	35.445	0.000	35.445

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

Acquisition Strategy not required for BA 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0606105DHA / *Medical Program-Wide Activities*	Project (Number/Name) 433A / *NMRC Biological Defense Research Directorate (BDRD) (Navy)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
433A: *NMRC Biological Defense Research Directorate (BDRD) (Navy)*	11.373	3.371	3.479	3.589	0.000	3.589	3.798	3.872	3.949	4.028	Continuing	Continuing

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) at Fort Detrick, Maryland. Operational costs are significant 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. Further, the NIBC campus is a fenced physical location with Entry Control Points (ECP). The partners on the campus, therefore, are required to pay for the guard force manning their ECP.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: NMRC Biological Defense Research Directorate (BDRD) (Navy)	3.371	3.479	3.589	0.000	3.589
Description: Funding for this project provides core funding for facility and security requirements in support of Biological Defense Research. The remainder of the program is sustained by the competitive acquisition of research funding.					
FY 2023 Plans: Continued support of the Biological Defense Research for Central Utility Plant, Entry Control Security Points Security Force and Operational costs necessary to achieve the mission critical functions of Biological Warfare (BW) agent detection, analysis, and deployable BW diagnostic lab service.					
FY 2024 Base Plans: Continued support of the Biological Defense Research for Central Utility Plant, Entry Control Security Points Security Force and Operational costs necessary to achieve the mission critical functions of Biological Warfare (BW) agent detection, analysis, and deployable BW diagnostic lab service.					
FY 2024 OCO Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0606105DHA / *Medical Program-Wide Activities*	**Project (Number/Name)** 433A / *NMRC Biological Defense Research Directorate (BDRD) (Navy)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Increase is due to inflation.					
Accomplishments/Planned Programs Subtotals	3.371	3.479	3.589	0.000	3.589

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition Strategy not required for BA 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0606105DHA / *Medical Program-Wide Activities*	Project (Number/Name) 494A / *Medical Development (Lab Support) (Navy)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
494A: *Medical Development (Lab Support) (Navy)*	129.681	46.274	47.159	48.062	0.000	48.062	48.898	49.874	50.872	51.889	Continuing	Continuing

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 United States (OCONUS) laboratories conduct focused medical research on vaccine development for Malaria, Diarrhea Diseases, and Dengue Fever. In addition to entomology, the labs focus on Human Immunodeficiency Syndrome (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 Continental United States (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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Medical Development (Lab Support) (Navy)	46.274	47.159	48.062	0.000	48.062
Description: Funding in this project covers 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. Excluded costs include military manpower and related costs, non-RDT&E base operating costs, and military construction costs, which are included in other appropriate programs. ***FY 2023 Plans:*** Continuing support of 8 medical RDT&E labs by covering operating and miscellaneous support costs including facility, equipment and civilian personnel costs that are not directly chargeable to RDT&E projects. ***FY 2024 Base Plans:*** Continuing support of 8 medical RDT&E labs by covering operating and miscellaneous support costs including facility, equipment and civilian personnel costs that are not directly chargeable to RDT&E projects. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase is due to inflation.					
Accomplishments/Planned Programs Subtotals	46.274	47.159	48.062	0.000	48.062

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0606105DHA / *Medical Program-Wide Activities*	**Project (Number/Name)** 494A / *Medical Development (Lab Support) (Navy)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

Acquisition Strategy not required for BA 1, 2, 3, or 6 per DoD Financial Management Regulation (FMR) Volume 2B, Chapter 5, Paragraph 4.2.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0607100DHA *I Medical Products and Capabilities Enhancement Activities*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	49.174	16.976	17.971	18.330	0.000	18.330	18.697	19.071	19.452	19.841	Continuing	Continuing
377A: *GDF-Medical Products and Capabilities Enhancement Activities*	49.174	16.976	17.971	18.330	0.000	18.330	18.697	19.071	19.452	19.841	Continuing	Continuing

Note

N/A

A. Mission Description and Budget Item Justification

Guidance for Development of the Force-Medical Products and Capabilities Enhancement Activities: Funds will support developmental upgrades to medical systems, training systems, and products that have been fielded, are routinely used in a fixed facility, or that have been approved for full-rate production and for which procurement funding is anticipated in the current fiscal year or subsequent fiscal years. These funds will support testing and evaluation for the enhancement of fielded or procured medical systems/products and medically-related information technology systems, assessment of fielded medical products or medical practices in order to identify the need/opportunity for changes, and analyses of clinical intervention outcomes to enhance and improve indications for pharmaceutical products. Efforts address the Military Health System Concept of Operations documents and follow-on Capabilities Based Assessments/Joint Capability Documents, appropriate Component requirements, legislative and Executive directives, and others as appropriate. Coordination occurs through the planning and execution activities of the Defense Health Agency Component Acquisition Executive (DHA CAE).

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	17.619	17.971	18.330	-	18.330
Current President's Budget	16.976	17.971	18.330	-	18.330
Total Adjustments	-0.643	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.643	-			

Change Summary Explanation

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0607100DHA / *Medical Products and Capabilities Enhancement Activities*	Project (Number/Name) 377A / *GDF-Medical Products and Capabilities Enhancement Activities*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
377A: *GDF-Medical Products and Capabilities Enhancement Activities*	49.174	16.976	17.971	18.330	0.000	18.330	18.697	19.071	19.452	19.841	Continuing	Continuing

A. Mission Description and Budget Item Justification

Guidance for Medical Products and Capabilities Enhancement Activity: This funding supports enhancement of existing medical products and medically related information technology systems to further fielding of joint medical materiel capabilities to meet Warfighter needs through support testing and evaluation for the enhancement of fielded or procured medical systems/products and medically-related information technology systems, assessment of fielded medical products or medical practices in order to identify the need/opportunity for changes, and analyses of clinical intervention outcomes to enhance and improve indications for pharmaceutical products.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: 377A: GDF – Medical Products and Capabilities Enhancement Activities	16.976	17.971	18.330	0.000	18.330
Description: This funding provides support for developmental 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. These funds will support testing and evaluation for the enhancement of fielded or procured medical systems/products and medically-related information technology systems, assessment of fielded medical products or medical practices in order to identify the need/opportunity for changes, and analyses of clinical intervention outcomes to enhance and improve indications for pharmaceutical products.					
FY 2023 Plans: Funding will modernize and upgrade products through joint testing and evaluation to improve fielding of medical materiel products. The Adenovirus Vaccine – Modernized Production program seeks to continue to modernize manufacturing capability of the only FDA-approved febrile acute respiratory disease (ARD) preventative vaccine for military recruits. In FY23, the program will optimize a closed system for bulk virus manufacturing, establish a secondary source for manufacturing the bulk virus, develop equipment, and transfer test methods for drug product and cleaning validation. Brain Hemorrhage Detector Modernization program seeks to modernize a US FDA approved, brain hemorrhage detection capability. In FY23, the program will build, test, and produce 20 devices for first article test/military validation. Additionally, funding will support a number of other programs to					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0607100DHA / *Medical Products and Capabilities Enhancement Activities*	**Project (Number/Name)** 377A / *GDF-Medical Products and Capabilities Enhancement Activities*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
include Wound Healing Combat Gauze, Environmental Sentinel Biomonitor (ESB) - Develop Integrated System, as well as others. ***FY 2024 Base Plans:*** FY 2024 plans continue efforts outlined in FY2023 and Implement the necessary improvements and modernization in current manufacturing operations to ensure sustainability and continuity of supply for Military use of the Adenovirus Vaccine. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to inflation program growth.					
Accomplishments/Planned Programs Subtotals	16.976	17.971	18.330	0.000	18.330

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

This program will integrate product improvements and enhancements resulting from post marketing studies and surveillance in existing medical products and medically related information technology systems to better meet Warfighter needs.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0605502DHA / *Small Business Innovation Research*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	66.784	76.540	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
470: *Small Business Innovation Research*	58.549	67.106	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
471: *Small Business Technology Transfer*	8.235	9.434	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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 DHA 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.

The Small Business Technology Transfer (STTR) program was established in the Defense Health Program (DHP), Research, Development, Test and Evaluation (RDT&E) appropriation during FY 2015, and is funded in the year of execution. The STTR Program, although modeled substantially on the SBIR Program, is a separate program and is separately financed. Central to the program is expansion of the public/private sector partnership to include the joint venture opportunities for small businesses and nonprofit research institutions. The unique feature of the STTR program is the requirement for the small business to formally collaborate with a research institution in Phase I and Phase II. STTR's most important role is to bridge the gap between performance of basic science and commercialization of resulting innovations. The mission of the STTR program is to support scientific excellence and technological innovation through the investment of Federal research funds in critical American priorities to build a strong national economy. The program's goals are to stimulate technological innovation, foster technology transfer through cooperative research and development between small businesses and research institutions, and increase private sector commercialization of innovations derived from federal research and development.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	76.540	0.000	0.000	0.000	0.000
Total Adjustments	76.540	0.000	0.000	0.000	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	76.540	-			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605502DHA / *Small Business Innovation Research*	Project (Number/Name) 470 / *Small Business Innovation Research*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
470: *Small Business Innovation Research*	58.549	67.106	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Defense Health Agency (DHA) Small Business Innovation Research (SBIR) Program can participate in any of the three (FY.1, FY.2, and FY.3) Department of Defense (DoD) SBIR Broad Agency Announcements (BAA) as well as Out-of-Cycle BAAs (FY.4). The process begins with a call for topics to the Joint Program Committees (JPCs), multi-Service committees established to manage research, development, test and evaluation for DHA sponsored research. DHA SBIR topics are submitted directly to the US Army Medical Research and Development Command (USAMRDC) and then forwarded to the JPCs for review and internal ranking. Topic Authors brief their topics at a Topic Review Meeting attended by the DHA SBIR Program Director (PD) and personnel from the supporting USAMRDC offices. Approved DHA SBIR topics are published in DoD SBIR BAAs. Small businesses submit proposals against topics which are then evaluated by a Technical Evaluation Team (TET) made up of a Team Chief and Technical Evaluators. TETs recommend proposals for selection. All recommended proposals are reviewed by the JPCs and the DHA SBIR PD. Phase I proposal selections are announced and contract negotiations begin. Phase I contracts are awarded up to $250K for 6 months. Follow-on Phase II projects can be awarded up to $1.1M for 24 months. This process ensures the SBIR program addresses the multi-agency science and technology priorities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Small Business Innovation Research (SBIR) Program	67.106	0.000	0.000	0.000	0.000
Description: The program funds small business proposals chosen to enhance military medical research and information technology research. The following reflects the FY 2022 research area topics sought for proposals. FY 2022 Accomplishments: For FY 2022, nine DHA SBIR topics were developed for the 2022.1, 2022.2, and 2022.4 DoD SBIR Broad Agency Announcement (BAA). Funding for each topic is based on the technical merits of the proposals submitted. Topics included: 2022.1 DHA SBIR Topic DHA221-001 - Prolonged Care: To Demonstrate a Medicated Combat Tourniquet Capable of Wound Infection Treatment Delivery. This DHA SBIR initiative funded research to assemble a system of systems to prevent the development of infection in an austere environment when the provision of surgical intervention is delayed over 72 hours. This effort solicited a total of fifteen SBIR Phase I proposals. Proposals were accepted through the 2022.1 DoD SBIR BAA pre-released in December 2021. Proposals were received in February 2022 followed by Technical Evaluation Team evaluations in March 2022. Phase I proposal selections					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605502DHA / *Small Business Innovation Research*	**Project (Number/Name)** 470 / *Small Business Innovation Research*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
were announced in April 2022. A total of three Phase I proposals were selected under this topic. Awards were made in June 2022. 2022.1 DHA SBIR Topic DHA221-002 - Scalable Multi-person Hearing Protection Device Fit-testing System. This DHA SBIR initiative funded research to develop a system that can simultaneously fit-test multiple people with hearing protection devices (HPDs). This effort solicited a total of nine SBIR Phase I proposals. Proposals were accepted through the 2022.1 DoD SBIR BAA pre-released in December 2021. Proposals were received in February 2022 followed by Technical Evaluation Team evaluations in March 2022. Phase I proposal selections were announced in April 2022. A total of three Phase I proposals were selected under this topic. Awards were made in May and June 2022. 2022.1 DHA SBIR Topic DHA221-003 - Olfactory Neuroepithelium Functional Diagnostic Tool. This DHA SBIR initiative funded research to develop a device to determine thickness of mucus on top of the mucosa and then be able characterize important properties of the cellular layers of the olfactory cleft mucosa as has been demonstrated with optical coherence tomography (OCT) and confocal laser endomicroscopy (CLE) in the pulmonary tract. This effort solicited a total of four SBIR Phase I proposals. Proposals were accepted through the 2022.1 DoD SBIR BAA pre-released in December 2021. Proposals were received in February 2022 followed by Technical Evaluation Team evaluations in March 2022. Phase I proposal selections were announced in April 2022. A total of two Phase I proposals were selected under this topic. Awards were made in May and June 2022. 2022.1 DHA SBIR Topic DHA221-004 - Blind 3D Kinematic Measurement of High-Rate Complex Surface Deformation. This DHA SBIR initiative funded research to develop and demonstrate technologies capable of measuring complex surface response kinematics at the interface between the torso and body armor system. This effort solicited a total of eight SBIR Phase I proposals. Proposals were accepted through the 2022.1 DoD SBIR BAA pre-released in December 2021. Proposals were received in February 2022 followed by Technical Evaluation Team evaluations in March 2022. Phase I proposal selections were announced in April 2022. A total of three Phase I proposals were selected under this topic. Awards were made in July 2022. 2022.2 DHA SBIR Topic DHA222-001 - Developing a Hardened Portable EEG System for Aircrew Physiological. This DHA SBIR initiative funded research to design, build, and demonstrate a portable, dry EEG system that is integrated into the HGU-68/P flight helmet and capable of producing reliable and interpretable data in the flight environment which presents considerable sources of noise such as electronic noise, vibration from mechanical components, acceleration forces, changes in temperature and pressure, and non- neurological signals (e.g.,					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605502DHA / *Small Business Innovation Research*	**Project (Number/Name)** 470 / *Small Business Innovation Research*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
muscle activity). This effort solicited a total of thirty two SBIR Phase I proposals. Proposals were accepted through the 2022.2 DoD SBIR BAA pre-released in April 2022. Proposals were received in June 2022 followed by Technical Evaluation Team evaluations in July 2022. Phase I proposal selections were announced in July 2022. A total of three Phase I proposals were selected under this topic. Awards were made in August 2022. 2022.2 DHA SBIR Topic DHA222-002 - To Demonstrate a Technology for Early Detection and Monitoring of Wound. This DHA SBIR initiative funded research to develop and validate a technology solution for the early detection and monitoring of wound infections in a prolonged care setting. This effort solicited a total of twenty five SBIR Phase I proposals. Proposals were accepted through the 2022.2 DoD SBIR BAA pre-released in April 2022. Proposals were received in June 2022 followed by Technical Evaluation Team evaluations in July 2022. Phase I proposal selections were announced in July 2022. A total of three Phase I proposals were selected under this topic. Awards were made in August 2022. 2022.4 DHA SBIR Topic DHA224-D001 - Remote Frostbite Prevention System. This DHA SBIR initiative funded research to develop a wireless, readily-scalable, real-time skin temperature sensing system that end-users can use to identify cold stressed workers with hands, feet, and other extremities that are at risk of freezing cold injury. This effort solicited a total of fourteen SBIR Phase II proposals. Proposals were accepted through the 2022.4 DoD SBIR BAA pre-released in March 2022. Proposals were received in April 2022 followed by Technical Evaluation Team evaluations in May 2022. Phase II proposal selections were announced in June 2022. A total of three Phase II proposals were selected under this topic. Awards were made in September 2022. 2022.4 DHA SBIR Topic DHA224-D002 - Therapeutic Modalities for the Mitigation of Neck/Back Pain during Flight Operations. This DHA SBIR initiative funded research to design, build, and demonstrate a portable, ergonomically appropriate, and powered device for the relief of neck/back pain during long-haul flight operations. This effort solicited a total of seven SBIR Phase II proposals. Proposals were accepted through the 2022.4 DoD SBIR BAA pre-released in March 2022. Proposals were received in April 2022 followed by Technical Evaluation Team evaluations in May 2022. Phase II proposal selections were announced in June 2022. A total of three Phase II proposals were selected under this topic. Awards were made in September 2022. 2022.4 DHA SBIR Topic DHA224-D003 - Adaptive Technology to Optimize Rehabilitation of Lower Extremity Musculoskeletal Injuries throughout Recovery. This DHA SBIR initiative funded research to develop a technology (e.g. brace, exoskeleton) that adapts to facilitate recovery throughout rehabilitation of service members with lower extremity musculoskeletal injury to enable return to duty throughout rehabilitation of service members with					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605502DHA / *Small Business Innovation Research*	**Project (Number/Name)** 470 / *Small Business Innovation Research*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
lower extremity musculoskeletal injury to enable return to duty. This effort solicited a total of twenty one SBIR Phase II proposals. Proposals were accepted through the 2022.4 DoD SBIR BAA pre-released in March 2022. Proposals were received in April 2022 followed by Technical Evaluation Team evaluations in May 2022. Phase II proposal selections were announced in June 2022. A total of three Phase II proposals were selected under this topic. Awards were made in August 2022. ***FY 2023 Plans:*** FY 2023 Plans: For FY 2023, four DHA SBIR topics are being developed for the 2023.1 DoD SBIR Broad Agency Announcement (BAA). Additional topics will be developed throughout FY 2023. Funding for each topic is based on the technical merits of the proposals submitted. Topics included: 2023.1 DHA SBIR Topic DHA231-001 - Wireless Core Temperature Measurement during Extreme Environmental Exposure. This DHA SBIR initiative will fund research to develop a wireless technical solution and data logging system for measuring real-time core temperatures in humans during hot and cold exposure, to include water immersion, for up to 24 hours in resting and exercising individuals. This topic will be pre-released on 11 January 2023. The 2023.1 DoD BAA will open on 8 February 2023 and close on 8 March 2023. Proposals submitted against topic DHA231-001 will be evaluated in March 2023. Phase I proposal selections will be announced in April 2023. A total of 3 Phase I proposals are estimated to be awarded. Phase I contracts should be awarded by July 2023. 2023.1 DHA SBIR Topic DHA231-002 - Portable Technology to Assess Ankle Instability. This DHA SBIR initiative will fund research to improve service member readiness by objectively assessing ankle instability with technology that is portable and can be used by minimally trained personnel in the area of lower limb movement and ankle injuries. This topic will be pre-released on 11 January 2023. The 2023.1 DoD BAA will open on 8 February 2023 and close on 8 March 2023. Proposals submitted against topic DHA231-001 will be evaluated in March 2023. Phase I proposal selections will be announced in April 2023. A total of 3 Phase I proposals are estimated to be awarded. Phase I contracts should be awarded by July 2023. 2023.1 DHA SBIR Topic DHA231-003 - Development and Testing of Dual-lumen Femoral Cannula with Echogenic Material for Faster, Safer, and More Reliable Delivery of Extracorporeal Life Support during Prolonged Field Care. This DHA SBIR initiative will fund research to design, build, and demonstrate a femoral					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605502DHA / *Small Business Innovation Research*	**Project (Number/Name)** 470 / *Small Business Innovation Research*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
dual-lumen cannula that will allow for the initiation of lifesaving extracorporeal life support (ECLS) treatment in a prolonged-field-care environment. The end goal is to save the lives of warfighters with severe lung failure. This will be accomplished by (1) limiting the risks associated with two separate cannula placements; (2) enabling confirmation of cannula placement by means of handheld ultrasound in the field; and (3) making cannulation easy to perform by non-subspecialist providers. This topic will be pre-released on 11 January 2023. The 2023.1 DoD BAA will open on 8 February 2023 and close on 8 March 2023. Proposals submitted against topic DHA231-001 will be evaluated in March 2023. Phase I proposal selections will be announced in April 2023. A total of 3 Phase I proposals are estimated to be awarded. Phase I contracts should be awarded by July 2023. 2023.1 DHA SBIR Topic DHA231-004 - Minimally or Non-invasive Systemic Oxygen Delivery and Carbon Dioxide Removal. This DHA SBIR initiative will fund research to develop a drug, biologic, or device that is capable of facilitating transport of oxygen (O2) into the body and carbon dioxide (CO2) out of the body in a minimally-invasive or non-invasive manner without the need for oxygen generating systems. The proposed product must be usable in an austere environment with minimal clinical staff operation requirements. The ideal product will be usable by medical first responders such as combat medics (or equivalent). The final product will be low size, low weight, low power, stable at temperature extremes, with a prolonged shelf life. This topic will be pre-released on 11 January 2023. The 2023.1 DoD BAA will open on 8 February 2023 and close on 8 March 2023. Proposals submitted against topic DHA231-001 will be evaluated in March 2023. Phase I proposal selections will be announced in April 2023. A total of 4 Phase I proposals are estimated to be awarded. Phase I contracts should be awarded by July 2023. ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** No funding programmed. The DHA SBIR program is funded in the year of execution.					
Accomplishments/Planned Programs Subtotals	67.106	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605502DHA / *Small Business Innovation Research*	**Project (Number/Name)** 470 / *Small Business Innovation Research*

C. Other Program Funding Summary ($ in Millions)

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.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605502DHA / *Small Business Innovation Research*	Project (Number/Name) 471 / *Small Business Technology Transfer*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
471: *Small Business Technology Transfer*	8.235	9.434	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

Small Business Technology Transfer (STTR) is a program that expands funding opportunities in the federal innovation research and development arena. Central to the program is expansion of the public/private sector partnership to include the joint venture opportunities for small businesses and nonprofit research institutions. The unique feature of the STTR program is the requirement for the small business to formally collaborate with a research institution in Phase I and Phase II. STTR's most important role is to bridge the gap between performance of basic science and commercialization of resulting innovations. The program funds small business proposals that partner with a research institution, are technically meritorious, and enhance Joint Program Committee (JPC) research and development efforts. The DHA STTR Program can participate in any of the three (FY.A, FY.B, and FY.C) Department of Defense (DoD) STTR BAAs as well as Out-of-Cycle BAAs (FY.D). The process begins with a call for topics to the JPCs. DHA STTR topics are submitted directly to US Army Medical Research and Development Command (USAMRDC) and then forwarded to the JPCs for review and internal ranking. Topic Authors brief their topics at a Topic Review Meeting attended by the DHA STTR Program Director (PD) and personnel from the supporting USAMRDC offices. Approved DHA STTR topics are published in the DoD STTR BAA. Small businesses submit proposals against topics which are then evaluated by a Technical Evaluation Team (TET) made up of a Team Chief and Technical Evaluators. TETs recommend proposals for selection. All recommended proposals are reviewed by the JPCs and the DHA STTR PD. Phase I proposal selections are announced and contract negotiations begin. Phase I contracts are awarded up to $250K for 6 months. Follow-on Phase II projects can be awarded up to $1.1M for 24 months. This process ensures the STTR program addresses the multi-agency science and technology priorities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Small Business Technology Transfer (STTR) Program	9.434	0.000	0.000	0.000	0.000
Description: STTR Program offers funding opportunities in federal research and development to small businesses. The program aims to stimulate technological innovation in DoD research and development, strengthen the role of small business in meeting DoD research and development needs, foster and encourage participation by minority and disadvantaged persons in technological innovation, and increase the commercial application of DoD-supported research or research and development results. The following reflects the FY 2022 research area topics sought for proposals. FY 2022 Accomplishments: For FY 2022, one DHA STTR topic was developed for the 2022.B DoD STTR Broad Agency Announcement (BAA). Funding for each topic is based on the technical merits of the proposals submitted. Topics included:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605502DHA / *Small Business Innovation Research*	**Project (Number/Name)** 471 / *Small Business Technology Transfer*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
2022.B DHA STTR Topic DHA22B-001 - Integrated Blast Acquisition Test Surrogate. This DHA STTR initiative funded research to develop an anatomically accurate low cost blast surrogate to test and evaluate current and next-generation personal protective equipment (PPE). This effort solicited a total of twelve STTR Phase I proposals. Proposals were accepted through the 2022.B DoD STTR BAA pre-released in April 2022. Proposals were received in June 2022 followed by Technical Evaluation Team evaluations in July 2022. Phase I proposal selections were announced in July 2022. A total of three Phase I proposals were selected under this topic. Awards were made in September 2022. ***FY 2023 Plans:*** FY 2023 Plans: For FY 2023, DHA STTR topics will be solicited for the 2023.B DoD SBIR Broad Agency Announcement (BAA). 2023.B topics will be pre-released in April 2023. ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** No funding programmed. The DHA STTR program is funded in the year of execution.					
Accomplishments/Planned Programs Subtotals	9.434	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

Test and evaluate commercially developed prototypes funded by the STTR program to ensure military and regulatory requirements are met prior to production and fielding, to include FDA licensure and Environmental Protection Agency registration.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 8: *Software and Digital Technology Pilot Programs*	**R-1 Program Element (Number/Name)** PE 0308604DHA *I DoD Medical Information Exchange and Interoperability (DMIX) / Enterprise Intelligence and Data Solutions (EIDS)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
864: *DoD Medical Information Exchange and Interoperability (DMIX) / Enterprise Intelligence and Data Solutions (EIDS)*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Note

FY23 transfer to O&M PE 0807788 and RDT&E PE 0605039.
FY24-28 funding realigned to comply with congressional direction to refrain from starting any new Software Pilot Programs.

A. Mission Description and Budget Item Justification

The Defense Health Agency requires a fully rationalized, affordable, and modernized Military Health System Information Platform (MIP) program under the directorate and ownership of Enterprise Intelligence and Data Solutions Program Management Office (EIDS).

EIDS mission is to provide a comprehensive solution capable of supporting the evolving clinical and business data needs within DHA, spanning across DHHQ, clinical markets, Military Treatment Facilities, research communities, managed support contractors, combatant commands, and Health Information Exchange partners including Veterans Affairs (VA) and other Federal entities. To achieve better clinical outcomes, EIDS must transform into a Highly Reliable Organization (HRO). To serve as an effective HRO, EIDS must be a learning organization by using analytics and metrics to define and grow from lessons learned. Effective data analytics require data maturity goals and unwavering stakeholder support of the way forward.

DMIX Purpose: Comprised of infrastructure and services needed to provide seamless integrated sharing of electronic health data between the Department of Defense (DoD), Veteran's Affairs (VA), other Federal agencies, and private sector partners viewable to DoD and VA providers.

DMIX/EIDS FY2023 O&M: Supporting program Civilian pay

DMIX/EIDS FY 2023 BA08: Continue sustainment and maintenance of EIDS including program management, configuration management, technical refresh, commercial software licenses, data maintenance, ad hoc report maintenance, product/help desk support, cybersecurity compliance, software maintenance, test and evaluation activities, and cost of operating site personnel.

Increase activities consistent with best practices for Data Management and Data Architecture in order to reduce costs and enhance productivity. Establish innovative center of excellence for configuration management, requirements management, and version control of data, source code, and procedural instructions. Adhere to a path to Software Engineering Institute (SEI) Capability Maturity Model (CMM) level 4 or 5 compliance, again with the focus on reducing cost and increasing productivity.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Defense Health Agency	Date: March 2023
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 8: *Software and Digital Technology Pilot Programs*	**R-1 Program Element (Number/Name)** PE 0308604DHA *I DoD Medical Information Exchange and Interoperability (DMIX) / Enterprise Intelligence and Data Solutions (EIDS)*

Funding will be used for continued development and sustainment activities for seamless integrated sharing of electronic health data between the Department of Defense (DoD), the Department of Veterans Affairs (VA), other Federal agencies, and private sector partners viewable to DoD and VA providers.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	137.356	0.000	-	0.000
Current President's Budget	0.000	0.000	0.000	-	0.000
Total Adjustments	0.000	-137.356	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-137.356			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

The recommendation transfers funds for programs requested as BA-08 new starts in FY23 to their historical appropriation accounts for execution.
FY23 transfer to O&M PE 0807788 and RDT&E PE 0605039.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency			Date: March 2023
Appropriation/Budget Activity 0130 / 8	**R-1 Program Element (Number/Name)** PE 0308604DHA / *DoD Medical Information Exchange and Interoperability (DMIX) / Enterprise Intelligence and Data Solutions (EIDS)*	**Project (Number/Name)** 864 / *DoD Medical Information Exchange and Interoperability (DMIX) / Enterprise Intelligence and Data Solutions (EIDS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
864: *DoD Medical Information Exchange and Interoperability (DMIX) / Enterprise Intelligence and Data Solutions (EIDS)*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

EIDS will be spending FY24 allocations on development and sustainment of data sources for the Defense Health Agency. Enterprise Intelligence & Data Solutions Program Management Office supports MHS strategic goals and facilitate informed decision-making through the delivery of robust information services and data in a timely, relevant, and actionable manner. The EIDS PMO strives to execute the DHA Data Vision of providing seamless data services and decision support for clinicians, patients, beneficiaries, analysts, researchers, and DoD leadership to improve patient care.

The PMO manages a vast array of data-related assets, including data warehouses, data virtualization tools, visualization solutions (e.g. CarePoint) and data exchange solutions that in combination makes up a system of systems - Military Health System Information Platform (MIP).

EIDS focuses on delivering, connecting, and curating data to facilitate informed decision-making across a diverse data ecosystem to include data capture from legacy systems in a Health Information Archive in support of Military Health, Readiness, Federal Health Data Integration and Innovation.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Defense Medical Information Exchange and Interoperability (DMIX) / Enterprise Intelligence and Data Solutions (EIDS)	0.000	0.000	0.000	0.000	0.000
Description: • EIDS will be spending FY23 allocations on development and sustainment of data sources for the Defense Health Agency. Enterprise Intelligence & Data Solutions Program Management Office supports MHS strategic goals and facilitate informed decision-making through the delivery of robust information services and data in a timely, relevant, and actionable manner. The EIDS PMO strives to execute the DHA Data Vision of providing seamless data services and decision support for clinicians, patients, beneficiaries, analysts, researchers, and DoD leadership to improve patient care.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Defense Health Agency		Date: March 2023
Appropriation/Budget Activity 0130 / 8	**R-1 Program Element (Number/Name)** PE 0308604DHA / *DoD Medical Information Exchange and Interoperability (DMIX) / Enterprise Intelligence and Data Solutions (EIDS)*	**Project (Number/Name)** 864 / *DoD Medical Information Exchange and Interoperability (DMIX) / Enterprise Intelligence and Data Solutions (EIDS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
• The PMO manages a vast array of data-related assets, including data warehouses, data virtualization tools, visualization solutions (e.g. CarePoint) and data exchange solutions that in combination makes up a system of systems - Military Health System Information Platform (MIP). • Delivering, connecting, and curating data to facilitate informed decision-making across a diverse data ecosystem in support of Military Health, Readiness, Federal Health Data Integration and Innovation. ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

N/A