Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency											Date: May 2021	
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0601101DHA *I In-House Laboratory Independent Research (ILIR)*							
COST ($ in Millions)	**Prior Years**	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	23.972	4.013	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
010A: *CSI - Congressional Special Interests*	1.315	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
240A: *Infectious Disease (USUHS)*	3.110	0.490	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
240B: *Military Operational Medicine (USUHS)*	9.348	1.509	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
240C: *Combat Casualty Care (USUHS)*	9.949	2.014	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
468: *Metabolomics, Exposure Biomarkers, and Health Outcomes (USUHS)*	0.250	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Note

Funds were adjusted to higher priority programs in FY 2021-2025.

A. Mission Description and Budget Item Justification

For the Uniformed Services of the Health Sciences (USUHS), this program element supports basic medical research at the Uniformed Services University of the Health Sciences (USUHS). It facilitates the recruitment and retention of faculty; supports unique research training for military medical students and resident fellows; and allows the University's faculty researchers to collect pilot data towards military relevant medical research projects in order to secure research funds from extramural sources (estimated $180 million annually). Approximately 48 intramural research projects are active each year, including 18 faculty start-ups. Projects are funded on a peer-reviewed, competitive basis. Results from these studies contribute to the knowledge base intended to enable technical approaches and investment strategies within Defense Science and Technology (S&T) programs. USU 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.

Defense-Wide Review reductions permanently eliminates out-year funding for USU's ILIR program.

The ILIR program at USUHS is designed to answer fundamental questions of importance to the military medical mission of the Department of Defense in the areas of Combat Casualty Care, Infectious Diseases, Military Operational Medicine, and Chemical, Biological, and Radiologic Defense. The portfolio of research projects will vary annually because this research is investigator-initiated. Examples of typical research efforts are detailed in R-2a.

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency					Date: May 2021
Appropriation/Budget Activity 0130: *Defense Health Program* / BA 2: *RDT&E*			R-1 Program Element (Number/Name) PE 0601101DHA / *In-House Laboratory Independent Research (ILIR)*		
B. Program Change Summary ($ in Millions)	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**
Previous President's Budget	4.013	0.000	0.000	-	0.000
Current President's Budget	4.013	0.000	0.000	-	0.000
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	-	-			

Change Summary Explanation

FY 2021: Programmed effort and funding transferred to other higher priority programs.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601101DHA / *In-House Laboratory Independent Research (ILIR)*	Project (Number/Name) 010A / *CSI - Congressional Special Interests*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
010A: *CSI - Congressional Special Interests*	1.315	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

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 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601101DHA / *In-House Laboratory In dependent Research (ILIR)*	Project (Number/Name) 240A / *Infectious Disease (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
240A: *Infectious Disease (USUHS)*	3.110	0.490	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

For the Uniformed Services of the Health Sciences (USUHS), this program element supports basic medical research at the Uniformed Services University of the Health Sciences (USUHS). It facilitates the recruitment and retention of faculty; supports unique research training for military medical students and resident fellows; and allows the University's faculty researchers to collect pilot data towards military relevant medical research projects in order to secure research funds from extramural sources (estimated $180 million annually).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Infectious Disease	0.490	-	-
Description: For FY20 only, Immunology and molecular biology of bacterial, viral and parasitic disease threats to military operations. These threats include Bartonella bacilliformis, Clostridium difficile, Escherichia coli and their Shiga toxins, Henipaviruses (Hendra & Nipah), Cedar Virus, Hepatitis A, Helicobacter pylori, HIV, HTLV-1, Leishmaniasis, Litomosoides sigmodontis, Malaria, Neisseria gonorrhoeae, Shigella spp., Streptococcus, and Methicillin-resistant Staphylococcus aureus (MRSA). The pre-pandemic Defense-Wide Review reductions permanently eliminates USU's infectious disease intramural research capability			
Accomplishments/Planned Programs Subtotals	0.490	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601101DHA / *In-House Laboratory Independent Research (ILIR)*	Project (Number/Name) 240B / *Military Operational Medicine (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
240B: *Military Operational Medicine (USUHS)*	9.348	1.509	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

For the Uniformed Services of the Health Sciences (USUHS), this program element supports basic medical research at the Uniformed Services University of the Health Sciences (USUHS). It facilitates the recruitment and retention of faculty; supports unique research training for military medical students and resident fellows; and allows the University's faculty researchers to collect pilot data towards military relevant medical research projects in order to secure research funds from extramural sources (estimated $180 million annually).

Defense-Wide Review reductions permanently eliminates out-year funding for this program

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Military Operational Medicine	1.509	-	-
Description: For FY20 only, Sustainment of individual performance; mapping and managing deployment and operational stressors; cognitive enhancement; use of dietary and nutritional supplements and military and medical training readiness. Defense-Wide Review reductions permanently eliminates out-year funding for this program.			
Accomplishments/Planned Programs Subtotals	1.509	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601101DHA / *In-House Laboratory Independent Research (ILIR)*	Project (Number/Name) 240C / *Combat Casualty Care (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
240C: *Combat Casualty Care (USUHS)*	9.949	2.014	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

For the Uniformed Services of the Health Sciences (USUHS), this program element supports basic medical research at the Uniformed Services University of the Health Sciences (USUHS). It facilitates the recruitment and retention of faculty; supports unique research training for military medical students and resident fellows; and allows the University's faculty researchers to collect pilot data towards military relevant medical research projects in order to secure research funds from extramural sources (estimated $180 million annually).

Defense-Wide Review reductions permanently eliminates out-year funding for this program.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Combat Casualty Care	2.014	-	-
Description: For FY20 only, Regenerative medicine, rehabilitation, neurological, limb loss, pain management, readiness, resilience. Defense-Wide Review reductions permanently eliminates out-year funding for this program.			
Accomplishments/Planned Programs Subtotals	2.014	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601101DHA / *In-House Laboratory Independent Research (ILIR)*	Project (Number/Name) 468 / *Metabolomics, Exposure Biomarkers, and Health Outcomes (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
468: *Metabolomics, Exposure Biomarkers, and Health Outcomes (USUHS)*	0.250	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

For the Uniformed Services of the Health Sciences (USUHS), this program element supports basic medical research at the Uniformed Services University of the Health Sciences (USUHS). It facilitates the recruitment and retention of faculty; supports unique research training for military medical students and resident fellows; and allows the University's faculty researchers to collect pilot data towards military relevant medical research projects in order to secure research funds from extramural sources (estimated $180 million annually). Approximately 48 intramural research projects are active each year, including 18 faculty start-ups. Projects are funded on a peer-reviewed, competitive basis. Results from these studies contribute to the knowledge base intended to enable technical approaches and investment strategies within Defense Science and Technology (S&T) programs. USU 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.

The ILIR program at USUHS is designed to answer fundamental questions of importance to the military medical mission of the Department of Defense in the areas of Combat Casualty Care, Infectious Diseases, Military Operational Medicine, and Chemical, Biological, and Radiologic Defense. The portfolio of research projects will vary annually because this research is investigator-initiated. Examples of typical research efforts are detailed in R-2a.

B. Accomplishments/Planned Programs ($ in Millions)

N/A

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 2022 Defense Health Agency											Date: May 2021	
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 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	52.190	17.408	8.913	9.091	-	9.091	0.000	0.000	0.000	0.000	Continuing	Continuing
100A: *CSI - Congressional Special Interests*	9.331	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
371: *GDF - Basic Operational Medical Research Science*	42.859	8.556	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
371A: *GDF - BOMRS (Combat Casualty Care)*	0.000	8.852	1.304	1.328	-	1.328	-	-	-	-	Continuing	Continuing
371B: *GDF - BOMRS (Military Operational Medicine)*	0.000	0.000	5.498	5.609	-	5.609	-	-	-	-	Continuing	Continuing
371E: *GDF - BOMRS (Military Infectious Disease)*	0.000	0.000	2.111	2.154	-	2.154	-	-	-	-	Continuing	Continuing

Note

n/a

A. Mission Description and Budget Item Justification

Guidance for Development of the Force-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 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 Quadrennial Defense Review, the National Research Action Plan for Improving Access to Mental Health Services for Veterans, Service Members, and Military Families, the National Strategy for Combating Antibiotic Resistance, and the National Strategy for Biosurveillance.

Research will support efforts such as the Precision Medicine Initiative which seeks to increase the use of big data and interdisciplinary approaches to establish a fundamental understanding of military disease and injury to advance health status assessment, diagnosis, and treatment tailored to individual Service members and beneficiaries, research focused on protection against emerging infectious disease threats, the advancement of state of the art regenerative medicine manufacturing technologies consistent with the National Strategic Plan for Advanced Manufacturing, the advancement of global health engagement and capitalization of complementary research and technology capabilities, improving deployment military occupational and environmental exposure monitoring, and the strengthening of the scientific basis for decision-making in patient safety and quality performance in the Military Health System. The program also supports the Interagency Strategic Plan for Research and Development of Blood Products and Related Technologies for Trauma Care and Emergency Preparedness. 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, the Department of Health and Human Services, and the Department of Homeland Security. Funds in this PE are for basic research that promises to

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency	Date: May 2021
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*

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.

In FY 2016, Congressional Special Interest (CSI) funds were provided for Core Research Funding. Because of the CSI annual structure, out-year funding is not programmed.

B. Program Change Summary ($ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	17.408	8.913	9.091	-	9.091
Current President's Budget	17.408	8.913	9.091	-	9.091
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	-	-			

Change Summary Explanation

N/a in accordance to FY22 PB

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601117DHA / *Basic Operational Medical Research Sciences*	Project (Number/Name) 100A / *CSI - Congressional Special Interests*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
100A: *CSI - Congressional Special Interests*	9.331	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Congressional program increase: Restore Core Research Funding Reduction

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: CSI - Restoral	0.000	-	-
Description: CSI Restoral for directed research in 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.			
Accomplishments/Planned Programs 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 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
371: *GDF - Basic Operational Medical Research Science*	42.859	8.556	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Basic research described here focuses on enhancement of knowledge to support capabilities identified through the Joint Capabilities Integration and Development System process and sustainment of DoD and multi-agency priority investments in science, technology, research, and development as stated in the Quadrennial Defense Review, the National Research Action Plan for Improving Access to Mental Health Services for Veterans, Service Members, and Military Families, and the National Strategy for Combating Antibiotic Resistance. This project supports basic research managed by the Joint Program Committees (JPCs) in the following areas: 1- Military Infectious Diseases basic research develops protection and treatment products for military relevant infectious diseases. 2- Military Operational Medicine basic research focuses on the development of medical countermeasures against operational stressors, prevention of physical and psychological injuries during training and operations, and maximizing the health, performance and fitness of Service members. 3- Combat Casualty Care basic research focuses 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 2020	FY 2021	FY 2022
Title: Project 371 GDF – Basic Operational Medical Research Sciences	8.556	-	-
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.			
Accomplishments/Planned Programs Subtotals	8.556	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
371A: *GDF - BOMRS (Combat Casualty Care)*	0.000	8.852	1.304	1.328	-	1.328	-	-	-	-	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 as stated in the Quadrennial Defense Review, and the National Research Action Plan for Improving Access to Mental Health Services for Veterans, Service members, and Military Families.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Joint Battlefield Healthcare (Formerly Combat Casualty Care)	8.852	1.304	1.328
Description: Joint Battlefield Healthcare activities are focused on developing and understanding of acute and long-term trauma-associated pathophysiology mechanisms to include advanced hemostatic and resuscitative approaches to prolonged field care, enroute care, wound healing and recovery, and neurotrauma. ***FY 2021 Plans:*** Joint Battlefield Healthcare activities are focused on developing and understanding of acute and long-term trauma-associated pathophysiology mechanisms to include advanced hemostatic and resuscitative approaches to prolonged field care, enroute care, wound healing and recovery, and neurotrauma. ***FY 2022 Plans:*** Conduct Joint Battlefield Healthcare basic research activities focused on 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. Will continue Joint Battlefield Healthcare activities are focused on developing and understanding of acute and long-term trauma-associated pathophysiology mechanisms to include advanced hemostatic and resuscitative approaches to prolonged field care, enroute care, wound healing and recovery, and neurotrauma. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Funding change reflects planned lifecycle of this effort. Increase due to inflation.			
Accomplishments/Planned Programs Subtotals	8.852	1.304	1.328

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
371B: *GDF - BOMRS (Military Operational Medicine)*	0.000	0.000	5.498	5.609	-	5.609	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Conduct scientific studies and experimentation directed toward increasing fundamental knowledge and understanding to support the development of medical countermeasures against combat stressors, prevention of physical and psychological injuries and maximizing the health, performance and fitness of service members during training and from point of injury through role of care four.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Military Health and Recovery (Formerly Military Operational Medicine)	0.000	5.498	5.609

Description: Efforts include injury prevention and recovery, optimized cognition and fatigue management, physiological 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; performance nutrition and weight balance; operational systems toxicology for environmental health hazards; and, fatigue, cognitive health and performance.

FY 2021 Plans:

Efforts include injury prevention and recovery, optimized cognition and fatigue management, physiological 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; performance nutrition and weight balance; operational systems toxicology for environmental health hazards; and, fatigue, cognitive health and performance.

FY 2022 Plans:

Discover and identify new chemical compounds for further characterization and optimization as potential drug leads against emerging infectious diseases (EID). Discover and identify new antigens (a substance which induces an immune response in the body), virulence factors (molecules produced by microorganisms that help them attach, evade host responses and allow spread) and adjuvants (a substance which enhances the body's immune response to an antigen) that will lead to the development of effective EID countermeasures, develop approaches for countermeasures that achieve protective effectiveness and identify correlates of protection (measurable signs of immunity) across genetically diverse species.

Will continue efforts include injury prevention and recovery, optimized cognition and fatigue management, physiological health and resilience, and performance in extreme environments. Activities will continue to focus on: injury prevention and recovery related to

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
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 2021 to FY 2022 Increase/Decrease Statement:*** Increase is due to inflation.			
Accomplishments/Planned Programs Subtotals	0.000	5.498	5.609

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 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
371E: *GDF - BOMRS (Military Infectious Disease)*	0.000	0.000	2.111	2.154	-	2.154	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Basic research focused on the development of products for the prevention and treatment of military relevant infectious diseases.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Military Infectious Disease	0.000	2.111	2.154
Description: Military infectious diseases activities continue to support studies in bacterial diseases for the prevention and treatment of infections with multidrug-resistant (MDR) bacterial pathogens. In addition, to responding to emerging infectious diseases and acute respiratory diseases. ***FY 2021 Plans:*** Military infectious diseases activities continue to support studies in bacterial diseases for the prevention and treatment of infections with multidrug-resistant (MDR) bacterial pathogens. In addition, to responding to emerging infectious diseases and acute respiratory diseases. ***FY 2022 Plans:*** Will continue Military infectious diseases activities in bacterial diseases for the prevention and treatment of infections with multidrug-resistant (MDR) bacterial pathogens. In addition, to responding to emerging infectious diseases and acute respiratory diseases. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Increase due to inflation.			
Accomplishments/Planned Programs Subtotals	0.000	2.111	2.154

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 2022 Defense Health Agency											Date: May 2021	
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 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	596.717	175.032	72.573	74.024	-	74.024	0.000	0.000	0.000	0.000	Continuing	Continuing
200A: *Congressional Special Interests*	186.116	90.914	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	-
246A: *Combating Antibiotic Resistant Bacteria (CARB) - WRAIR Discovery and Wound Program (Army)*	9.924	1.900	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
306B: *Advanced Diagnostics & Therapeutics Research & Development (AF)*	19.397	0.716	0.151	0.000	-	0.000	-	-	-	-	Continuing	Continuing
306C: *Core Adv Diagnostics & Epigenomics Applied Research (AF)*	1.728	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
306D: *Biomedical Impact and Readiness Optimization of Air & Space Operations (AF)*	1.728	3.265	4.064	4.299	-	4.299	-	-	-	-	Continuing	Continuing
447A: *Military HIV Research Program (Army)*	47.463	9.435	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
372: *GDF - Applied Biomedical Technology*	330.361	68.802	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
372A: *GDF - ABT (Combat Casualty Care)*	0.000	0.000	14.855	15.151	-	15.151	-	-	-	-	Continuing	Continuing
372B: *GDF - ABT (Military Operational Medicine)*	0.000	0.000	26.255	26.779	-	26.779	-	-	-	-	Continuing	Continuing
372C: *GDF - ABT (Medical Simulation & Training/Health Informatics)*	0.000	0.000	10.611	10.826	-	10.826	-	-	-	-	Continuing	Continuing
372D: *GDF - ABT (Clinical and Rehabilitation Medicine)*	0.000	0.000	7.064	7.204	-	7.204	-	-	-	-	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency											Date: May 2021	
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0602115DHA *I Applied Biomedical Technology*							
372E: *GDF - ABT (Military Infectious Disease)*	0.000	0.000	8.607	8.779	-	8.779	-	-	-	-	Continuing	Continuing
372F: *GDF - ABT (Radiological Health Effects)*	0.000	0.000	0.966	0.986	-	0.986	-	-	-	-	Continuing	Continuing

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 Quadrennial Defense Review, the National Research Action Plan for Improving Access to Mental Health Services for Veterans, Service Members, and Military Families, the National Strategy for Combating Antibiotic Resistance, and the National Strategy for Biosurveillance.

Research will support efforts such as the Precision Medicine Initiative which seeks to increase the use of big data and interdisciplinary approaches to establish a fundamental understanding of military disease and injury to advance health status assessment, diagnosis, and treatment tailored to individual Service members and beneficiaries, translational research focused on protection against emerging infectious disease threats, the advancement of state of the art regenerative medicine manufacturing technologies consistent with the National Strategic Plan for Advanced Manufacturing, the advancement of global health engagement and capitalization of complementary research and technology capabilities, improving deployment military occupational and environmental exposure monitoring, and the strengthening of the scientific basis for decision-making in patient safety and quality performance in the Military Health System. The program also supports the Interagency Strategic Plan for Research & Development of Blood Products and Related Technologies for Trauma Care and Emergency Preparedness. 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, the Department of Health and Human Services, and the Department of Homeland Security. 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.

For the Army Medical Command: This PE funds the military HIV research program to refine identification methods for determining genetic diversity of the virus, to conduct preclinical work in laboratory animals including non-human primates to identify candidates for global HIV-1 vaccine, and to evaluate and prepare overseas sites for clinical trials with these vaccine candidates. Funding is also provided to develop strategies to prevent, mitigate, and treat antibiotic resistant bacteria in wounds through the Combating Antibiotic Resistant Bacteria - WRAIR Discovery and Wound Program.

In FY 2016, Congressional Special Interest funds were provided for Traumatic Brain Injury and Psychological Health (TBI/PH) and Core Research Funding. Because of the CSI annual structure, out-year funding is not programmed.

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency	Date: May 2021
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0602115DHA *I Applied Biomedical Technology*

B. Program Change Summary ($ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	175.032	72.573	74.024	-	74.024
Current President's Budget	175.032	72.573	74.024	-	74.024
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	-	-			

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2020	FY 2021
Project: 200A: *Congressional Special Interests*		
Congressional Add: *PC426 – CSI - Peer Reviewed Traumatic Brian Injury / Psychological Health (TBI/PH) (PE 0602115) (Army)*	58.203	-
Congressional Add: *PC462A – CSI - GDF Restore Core Applied Biomedical Technology (PE 0602115) (GDF)*	32.711	-
Congressional Add Subtotals for Project: 200A	90.914	-
Congressional Add Totals for all Projects	90.914	-

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
200A: *Congressional Special Interests*	186.116	90.914	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	-

A. Mission Description and Budget Item Justification

In FY 2018, 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)	FY 2020	FY 2021
Congressional Add: PC426 – CSI - Peer Reviewed Traumatic Brian Injury / Psychological Health (TBI/PH) (PE 0602115) (Army) ***FY 2020 Accomplishments:*** 426 – CSI - Peer Reviewed Traumatic Brian Injury / Psychological Health (TBI/PH) (PE 0602115) (Army)	58.203	-
Congressional Add: PC462A – CSI - GDF Restore Core Applied Biomedical Technology (PE 0602115) (GDF) ***FY 2020 Accomplishments:*** PC462A – CSI - GDF Restore Core Applied Biomedical Technology (PE 0602115) (GDF)	32.711	-
Congressional Adds Subtotals	90.914	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115DHA / *Applied Biomedical Technology*	**Project (Number/Name)** 246A / *Combating Antibiotic Resistant Bacteria (CARB) - WRAIR Discovery and Wound Program (Army)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
246A: *Combating Antibiotic Resistant Bacteria (CARB) - WRAIR Discovery and Wound Program (Army)*	9.924	1.900	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

At the President's direction in late 2013, a National Strategy was created to address the critical issue of antimicrobial resistance. This strategy was devised using an interagency approach and ultimately approved at the executive level (2014). Inherent in this work are DoD sponsored efforts to support the DoD's beneficiaries, but also complement national efforts to prevent, detect, and control illness and death related to infections caused by antibiotic-resistant bacteria. One critical need identified is for new therapeutics, to include antibiotics. This effort's focus is on the development of new/novel antibiotics, especially those targeting the most resistant and worrisome Gram negative bacterial pathogens, using existing expertise at the Walter Reed Army Institute of Research (WRAIR), and leveraging other WRAIR capabilities to evaluate viable candidate targets for advanced discovery. This project supports (both directly and indirectly) Global Health Security Agenda priorities to respond rapidly and effectively to biological threats of international concern.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Combating Antibiotic Resistant Bacteria (CARB) - WRAIR Discovery and Wound Program (Army)	1.900	-	-
Description: Focus on continued establishment of in-house capabilities for an antibacterial drug discovery program directed toward military relevant drug-resistant bacteria that a) encompasses assessment of external products/candidates/leads that may meet DoD requirements, b) opens active intramural based discovery efforts of new potential products/candidates/leads for development, and c) fosters partnerships with external collaborators to develop/co-develop new potential antibacterial treatment therapeutics.			
Accomplishments/Planned Programs Subtotals	1.900	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

An Acquisition Strategy will be developed to support future Milestone B when a clinical development candidate is identified and reaches Technology Readiness Level (TRL)-6.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
306B: *Advanced Diagnostics & Therapeutics Research & Development (AF)*	19.397	0.716	0.151	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 2020	FY 2021	FY 2022
Title: Advanced Diagnostics & Therapeutics Research & Development (AF)	0.716	0.151	-
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 2021 Plans:*** Research will continue examining stem cell therapies for peripheral nerve regeneration and repair as well as radiofrequency-induced injuries. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Reduced funding due to realignment within Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), Program Element (PE) 0602115DHA, Project Codes 306B and 306D reflect deliberate focus on future readiness mission.			
Accomplishments/Planned Programs Subtotals	0.716	0.151	-

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)*

C. Other Program Funding Summary ($ in Millions)

Remarks

Accomplishments: Mesenchymal Stem Cell (MSC)-derived exosomes were examined as modulators of 1) peripheral nerve regeneration and 2) repair from radiofrequency-induced auditory dysfunction. Raman microscopy was evaluated for the rapid detection of microbial water contamination.

D. Acquisition Strategy

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

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115DHA / *Applied Biomedical Technology*	Project (Number/Name) 306C / *Core Adv Diagnostics & Epigenomics Applied Research (AF)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
306C: *Core Adv Diagnostics & Epigenomics Applied Research (AF)*	1.728	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 perform research in the area of assay development/refinement for diseases of operational significance/ conditions. This will support increased efficiency and efficacy of care across the spectrum of Advanced Diagnostics and Therapeutics requirements in the defined Portfolio Areas. In addition, this project will support research for biosurveillance/occupational health activities and research/development of evidence based therapeutics

B. Accomplishments/Planned Programs ($ in Millions)

N/A

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115DHA / *Applied Biomedical Technology*	Project (Number/Name) 306D / *Biomedical Impact and Readiness Optimization of Air & Space Operations (AF)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
306D: *Biomedical Impact and Readiness Optimization of Air & Space Operations (AF)*	1.728	3.265	4.064	4.299	-	4.299	-	-	-	-	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. Focus areas include Biomedical Impact of Flight and Airman Readiness Optimization.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Biomedical Impact and Readiness Optimization of Air & Space Operations (AF)	3.265	4.064	4.299
Description: Applied research to develop approaches to increase the understanding of the underlying medical and biological mechanisms of health in operating environments that link to optimizing mission performance and readiness. Research will identify metrics of 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 2021 Plans: Assess relevant biomarkers, chemical, environmental and medical attributes that impact high performing Airmen. Characterize Aircrew physiologic response to aerospace stressors. Understand the exposure-based pathophysiology behind the high-rates of neck and back pain and injury amongst United State Air Force (USAF) pilots. Study effects of enroute care transport exposure on high-incidence rate clinical presentations and patient outcomes.			
FY 2022 Plans: Develop models of health and performance relevant to Air Force operational environments using attribute-linked data to assess and mitigate risks impacting mission readiness. Continue to characterize relevant biomarkers, chemical, environmental and medical attributes that optimize mission performance. Continue to evaluate enroute care relevant safety issues and patient outcomes.			
FY 2021 to FY 2022 Increase/Decrease Statement:			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602115DHA / *Applied Biomedical Technology*	**Project (Number/Name)** 306D / *Biomedical Impact and Readiness Optimization of Air & Space Operations (AF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Increased funding due to realignment within Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), Program Element (PE) 0602115DHA, Project Codes 306B and 306D reflect deliberate focus on future readiness mission.			
Accomplishments/Planned Programs Subtotals	3.265	4.064	4.299

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Accomplishments: Discovery of microRNA (miRNA) biomarkers for specific injury mechanisms, novel therapeutics that enhance recovery and resiliency, characterizing neurovascular effects of acceleration and altitude exposures, modeling operational impact of Mission Oriented Protective Posture (MOPP) gear on aircrew and medical operations, physiologic-based pharmacokinetic models of multi-contaminant exposures, modeling ocular health and performance risk criteria for aircrew.

D. Acquisition Strategy

Air Force Contracting, Interagency Agreements, and Inter-service Support Agreements with the U.S. Army, U.S. Navy, and the Department of Homeland Security are used to support ongoing scientific and technical efforts within this program. These agreements are supplemented with Broad Area Announcements (BAA) and Intramural calls for proposals, which are used to award initiatives in this project following determinations of scientific and technical merit, validation of need, prioritization, selection and any necessary legal and / or regulatory approvals (IRB, etc.).

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115DHA / *Applied Biomedical Technology*	Project (Number/Name) 447A / *Military HIV Research Program (Army)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
447A: *Military HIV Research Program (Army)*	47.463	9.435	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project conducts research on the human immunodeficiency virus (HIV), which causes acquired immunodeficiency syndrome (AIDS). This effort supports the Administration's priorities in the area of international scientific partnership in global health engagement. Work in this area includes refining improved identification methods to determine genetic diversity of the virus and evaluating and preparing overseas sites for clinical trials with global vaccine candidates. Additional activities include refining candidate vaccines for preventing HIV and undertaking preclinical studies (studies required before testing in humans) to assess vaccine for potential to protect and/or manage the disease in infected individuals. This project is jointly managed through an Interagency Agreement between U.S. Army Medical Research and Materiel Command (USAMRMC) and the National Institute of Allergy and Infectious Diseases (NIAID) of the National Institutes of Health. This project contains no duplication of effort within the Military Departments or other government organizations. The cited work is also consistent with the Assistant Secretary of Defense, Research and Engineering Science and Technology focus areas, and supports the principal area of Military Relevant Infectious Diseases to include HIV.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Military HIV Research Program	9.435	-	-
Description: This project conducts research on HIV, which causes AIDS. Work in this area includes refining improved identification methods to determine genetic diversity of the virus and evaluating and preparing overseas sites for future vaccine trials. Additional activities include refining candidate vaccines for preventing HIV and undertaking preclinical studies (studies required before testing in humans) to assess vaccine for potential to protect and/or manage the disease in infected individuals.			
Accomplishments/Planned Programs Subtotals	9.435	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

The program receives periodic funding from Division of AIDS of NIAID ranging from $10-20 million per year through an Interagency Agreement with USAMRMC.

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
372: *GDF - Applied Biomedical Technology*	330.361	68.802	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- Medical Simulation and Information Sciences applied research is developing informatics-based simulated military medical training. 2- Military Infectious Diseases applied research is developing protection and treatment products for military relevant infectious diseases. 3- Military Operational Medicine applied research goals are to develop medical countermeasures against operational stressors, prevent musculoskeletal, neurosensory, and psychological injuries during training and operations, and to maximize health, performance and fitness of Service members. 4- 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. 5- Radiation Health Effects applied research supports tasks for the development of radiation medical countermeasures. 6- Clinical and Rehabilitative Medicine applied research is focused on efforts to reconstruct, rehabilitate, and provide care for injured Service members.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: GDF Applied Biomedical Technology ***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.	68.802	-	-
Accomplishments/Planned Programs Subtotals	68.802	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Evaluate technical feasibility of potential solutions to military health issues. Implement models into data or knowledge and test in a laboratory environment. Technology Transition and Milestone A packages will be developed to facilitate product transition.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
372A: *GDF - ABT (Combat Casualty Care)*	0.000	0.000	14.855	15.151	-	15.151	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

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. Joint battlefield healthcare applied research is focused on optimizing survivability and recovery in injured Service members across the spectrum of care from point of injury through enroute care and facility care.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Joint Battlefield Healthcare (Formerly Combat Casualty Care)	-	14.855	15.151
Description: Joint Battlefield Healthcare applied research activities are focused on investigating new diagnostic tools and treatments for prolonged battlefield hemorrhage control, novel approaches for evaluation and treatment of neurotrauma, the role of precision medicine for care for wounded, burn and severe trauma treatments and long term care, and clinically relevant devices and processes related to evacuation and enroute care. ***FY 2021 Plans:*** Joint Battlefield Healthcare applied research activities are focused on investigating new diagnostic tools and treatments for prolonged battlefield hemorrhage control, novel approaches for evaluation and treatment of neurotrauma, the role of precision medicine for care for wounded, burn and severe trauma treatments and long term care, and clinically relevant devices and processes related to evacuation and enroute care. ***FY 2022 Plans:*** Conduct Joint Battlefield Healthcare 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 2021 to FY 2022 Increase/Decrease Statement:*** Funding change reflects planned lifecycle of this effort.			
Accomplishments/Planned Programs Subtotals	-	14.855	15.151

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)*

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
372B: *GDF - ABT (Military Operational Medicine)*	0.000	0.000	26.255	26.779	-	26.779	-	-	-	-	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 countermeasures against operational stressors, or that prevent musculoskeletal, neurosensory, and psychological injuries during training and from point of injury through role of care four.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Military Health and Recovery (Formerly Military Operational Medicine)	-	26.255	26.779

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 2021 Plans:

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 2022 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 2021 to FY 2022 Increase/Decrease Statement:

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
Funding change reflects planned lifecycle of this effort.			
Accomplishments/Planned Programs Subtotals	-	26.255	26.779

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
372C: *GDF - ABT (Medical Simulation & Training/Health Informatics)*	0.000	0.000	10.611	10.826	-	10.826	-	-	-	-	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 2020	FY 2021	FY 2022
Title: Medical Simulation Technologies (Formerly Medical Simulation Technologies & Training/Health Informatics)	-	10.611	10.826

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 2021 Plans:

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 2022 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
Conduct studies, investigations, and non-system specific technology effort focus on prototyping tissue models, technologies that simulate medical condition progress over time, personalized 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, including the brain and all organ systems of the body; 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 -including those anticipated from future weaponry, 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 2021 to FY 2022 Increase/Decrease Statement:*** Funding change reflects planned lifecycle of this effort.			
Accomplishments/Planned Programs Subtotals	-	10.611	10.826

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115DHA / *Applied Biomedical Tec hnology*	Project (Number/Name) 372D / *GDF - ABT (Clinical and Rehabilitation Medicine)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
372D: *GDF - ABT (Clinical and Rehabilitation Medicine)*	0.000	0.000	7.064	7.204	-	7.204	-	-	-	-	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 2020	FY 2021	FY 2022
Title: Clinical and Rehabilitation Medicine	-	7.064	7.204
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 2021 Plans:*** 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 2022 Plans:*** Efforts will continue to focus on neuromusculoskeletal injuries to advance the diagnosis, treatment and rehabilitation outcomes after Service-related injuries; targets for therapies to alleviate acute, chronic, and battlefield pain; 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 2021 to FY 2022 Increase/Decrease Statement:*** Funding change reflects planned lifecycle of this effort.			
Accomplishments/Planned Programs Subtotals	-	7.064	7.204

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602115DHA / *Applied Biomedical Tec hnology*	Project (Number/Name) 372E / *GDF - ABT (Military Infectious Disease)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
372E: *GDF - ABT (Military Infectious Disease)*	0.000	0.000	8.607	8.779	-	8.779	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Military infectious diseases activities continue to support studies in bacterial diseases research, and will down-select promising efforts for further development.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Military Infectious Disease	-	8.607	8.779
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 2021 Plans:*** 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 2022 Plans:*** Identify and optimize lead drug compounds to identify emerging infectious diseases (EID) countermeasure candidates for human studies. Test lead drug candidates for safety and toxicity in animals. Down-select lead candidates as an EID drug for use in humans. Optimize antigens and platforms for use in animal studies. Evaluate new immunoprophylactic candidates for safety, effectiveness, and immunogenicity in animal models to advance to human clinical trials. Optimize and test of antigens and vaccine platforms for Dengue. Demonstrate efficacy and safety of dengue vaccine candidates in animal models. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Funding change reflects planned lifecycle of this effort.			
Accomplishments/Planned Programs Subtotals	-	8.607	8.779

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
372F: *GDF - ABT (Radiological Health Effects)*	0.000	0.000	0.966	0.986	-	0.986	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Support the discovery and development of medical capabilities to counter the threat of harmful radiation exposure. Research will be focused on countermeasures for acute radiation exposure leading toward identification of candidates for pre-exposure prophylaxis.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Radiological Health Effects	-	0.966	0.986
Description: Research will support discovery of one to two Medical Countermeasures (MCMs) candidates to development toward Technology Readiness Leve 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 2021 Plans: Research will support discovery of one to two Medical Countermeasures (MCMs) candidates to development toward Technology Readiness Leve 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 2022 Plans: Continue research toward the development of prophylactic medical countermeasures against acute radiation exposures and supporting mechanistic science and animal development.			
FY 2021 to FY 2022 Increase/Decrease Statement: Funding change reflects planned lifecycle of this effort.			
Accomplishments/Planned Programs Subtotals	-	0.966	0.986

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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

D. Acquisition Strategy

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency											Date: May 2021	
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 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	11.918	1.383	1.411	1.439	-	1.439	0.000	0.000	0.000	0.000	Continuing	Continuing
020: *CSI - Congressional Special Interests*	0.124	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
241A: *Biodosimetry (USUHS)*	2.428	0.283	0.289	0.295	-	0.295	-	-	-	-	Continuing	Continuing
241B: *Internal Contamination (USUHS)*	1.268	0.149	0.152	0.155	-	0.155	-	-	-	-	Continuing	Continuing
241C: *Radiation Countermeasures (USUHS)*	8.098	0.951	0.970	0.989	-	0.989	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

For the Uniformed Services University of the Health Sciences (USUHS), Armed Forces Radiobiology Research Institute (AFRRI), this program supports developmental research to investigate new approaches that will lead to advancements in biomedical strategies for preventing, treating, assessing and predicting the health effects of human exposure to ionizing radiation. Program objectives focus on preventing or mitigating the health consequences from exposures to ionizing radiation that represent the highest probable threat to U.S. forces in current tactical, humanitarian and counterterrorism mission environments. New protective and therapeutic strategies will broaden the military commander's options for operating within nuclear or radiological environments by minimizing both short-and long-term risks of adverse health consequences. Advances in assessment, prognostication, and therapy in case of actual or suspected radiation exposures will enhance triage, treatment decisions and risk assessment in operational settings.

B. Program Change Summary ($ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	1.383	1.411	1.439	-	1.439
Current President's Budget	1.383	1.411	1.439	-	1.439
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	0.000	-			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602787DHA / *Medical Technology (AFRRI)*	Project (Number/Name) 020 / *CSI - Congressional Special Interests*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
020: *CSI - Congressional Special Interests*	0.124	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 FY15 DHP Congressional Special Interest (CSI) funding is directed toward core research initiatives in Program Element (PE) 0602787 - Medical Technology (AFRRI). 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 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602787DHA / *Medical Technology (AF RRI)*	Project (Number/Name) 241A / *Biodosimetry (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
241A: *Biodosimetry (USUHS)*	2.428	0.283	0.289	0.295	-	0.295	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

For the Uniformed Services University of the Health Sciences (USU), Armed Forces Radiobiology Research Institute (AFRRI), this program supports developmental research to investigate new approaches that will lead to advancements in biomedical strategies for preventing, treating, assessing and predicting the health effects of human exposure to ionizing radiation. Program objectives focus on preventing or mitigating the health consequences from exposures to ionizing radiation that represent the highest probable threat to U.S. forces in current tactical, humanitarian and counterterrorism mission environments. New protective and therapeutic strategies will broaden the military commander's options for operating within nuclear or radiological environments by minimizing both short-and long-term risks of adverse health consequences. Advances in assessment, prognostication, and therapy in case of actual or suspected radiation exposures will enhance triage, treatment decisions and risk assessment in operational settings.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Biodosimetry (USUHS)	0.283	0.289	0.295
Description: Biodosimetry (USU): For the Uniformed Services University of the Health Sciences (USU), the mission and research objectives for biodosimetry are to assess radiation exposure by developing and providing biological and biophysical dosimetry capabilities for acute, protracted, and prior radiation exposures for all relevant military applications. ***FY 2021 Plans:*** FY 2021 plans continue efforts as outlined in FY 2020 in addition to the following: - Evaluate the use of the hematological algorithms using archived animal and human databases to provide prognostic diagnostic capability of radiation injury assessment. - Compare various PCC endpoints for their utility to predict the fraction of the body exposed to radiation to determine those that could best provide rapid and accurate diagnostic information. - Evaluate utility of long range QPCR (LR-QPCR) to quantitatively measure radiation-induced DNA damage in mammalian cells. - Continue efforts to establish high energy LINAC electron dose-response curve using the lymphocyte metaphase spread dicentric chromosome aberration assay. ***FY 2022 Plans:*** FY 2022 plans continue efforts as outlined in FY 2021. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Pricing adjustment for inflation.			
Accomplishments/Planned Programs Subtotals	0.283	0.289	0.295

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787DHA / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241A / *Biodosimetry (USUHS)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

The program element 0602787DHA for AFRRI in addition to the three program elements: 0601115HPPE, 0602115HPPE, 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

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
241B: *Internal Contamination (USUHS)*	1.268	0.149	0.152	0.155	-	0.155	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Internal Contamination (USUHS)	0.149	0.152	0.155
Description: Internal Contamination (USU): 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 approaches to address this pressing health concern. ***FY 2021 Plans:*** FY 2021 plans continue efforts as outlined in FY 2020 in addition to the following: initiation of feasibility studies of incorporating non-toxic plant-based metal chelators into a dendrimeric structure for use as potential radionuclide decorporation agents. ***FY 2022 Plans:*** FY2022 plans continue efforts as outlined in FY 2021. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Pricing adjustment for inflation.			
Accomplishments/Planned Programs Subtotals	0.149	0.152	0.155

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

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

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0602787DHA / *Medical Technology (AFRRI)*	**Project (Number/Name)** 241B / *Internal Contamination (USUHS)*

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0602787DHA / *Medical Technology (AF RRI)*	Project (Number/Name) 241C / *Radiation Countermeasures (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
241C: *Radiation Countermeasures (USUHS)*	8.098	0.951	0.970	0.989	-	0.989	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Radiation Countermeasures (USU): For the Uniformed Services University of the Health Sciences (USU), 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), termed combined injury (CI). Research ranges from exploration of biological processes likely to form the basis of technological solutions, to initial feasibility studies of promising solutions. Program objectives focus on 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 therapeutic strategies will broaden the military commander's options for operating within nuclear or radiological environments by minimizing both short-and long-term risks of adverse health consequences.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Radiation Countermeasures (USUHS)	0.951	0.970	0.989
Description: For the Uniformed Services University of the Health Sciences (USU), 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), termed combined injury (CI). Research ranges from exploration of biological processes likely to form the basis of technological solutions, to initial feasibility studies of promising solutions. Program objectives focus on 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 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.			
FY 2021 Plans: FY2021 plans continue efforts as outlined in FY2020 in addition to the following: - Further test drug candidates for prophylactic efficacy in a hematopoietic acute radiation syndrome (H-ARS) murine model. Successful candidates will be developed further for dose and time optimization. - Evaluate differential expression of micro-RNAs in C57BL/6 mice (male and female) and minipig long term after radiation. - Determine the DEARE (delayed effects of acute radiation exposure) effects on the gut microbiome compositions and host-microbiome relationship and identify gender differences. - Test the radiation-induced IL-18, IL-18 receptor (IL-18R) and IL-18BP expression and activation in multiple tissues and cells, develop the IL-18 as a radiation biomarker.			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
- Identify the mechanisms by which IL-18 signaling induces mouse tissue and cell injury after radiation and IL-18BP's mitigative effects using IL-18 Knockout mice. - Evaluate the effects and mechanism of radiation-induced inflammatory cytokines including IL-18 and IL-33 release and cell mitochondria response. - Evaluate the efficacy of IL-18BP on survival of radiation-induced GI injury using partial body irradiation (PBI). - Determine the dose reduction factor (DRF) of IL-18BP in irradiated mice. - Evaluate the effects and mechanisms of IL-18BP on survival of mouse gastrointestinal systems after lethal doses of TBI. ***FY 2022 Plans:*** FY 2022 plans continue efforts as outlined in FY 2021. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Pricing adjustment for inflation.			
Accomplishments/Planned Programs Subtotals	0.951	0.970	0.989

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

The program element 0602787DHA for AFRRI in addition to the three program elements: 0601115HPPE, 0602115HPPE, 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

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency	Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	2.785	0.345	0.352	0.359	-	0.359	-	-	-	-	Continuing	Continuing
030A: *CSI - Congressional Special Interests*	0.031	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
242A: *Biodosimetry (USUHS)*	1.648	0.206	0.210	0.214	-	0.214	-	-	-	-	Continuing	Continuing
242B: *Radiation Countermeasures (USUHS)*	1.106	0.139	0.142	0.145	-	0.145	-	-	-	-	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), this program supports applied research for advanced development of biomedical strategies to prevent, treat and assess health consequences from exposure to ionizing radiation. It capitalizes on findings under PE 0602787HP, Medical Technology, and from industry and academia to advance novel medical countermeasures into and through pre-clinical studies toward newly licensed products. Program objectives focus on mitigating the health consequences from exposures to ionizing radiation(alone or in combination with other injuries) that represent the highest probable threat to US forces in current tactical, humanitarian and counterterrorism mission environments. Findings from basic and developmental research are integrated into focused advanced technology development studies to produce the following: (1) protective and therapeutic strategies; (2) novel biological markers and delivery platforms for rapid, field-based individual medical assessment; and (3) experimental data needed to build accurate models for predicting casualties from complex injuries involving radiation and other battlefield insults. The AFRRI, because of its multidisciplinary staff and exceptional laboratory and radiation facilities, is uniquely positioned to execute the program as prescribed by its mission.

B. Program Change Summary ($ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	0.345	0.352	0.359	-	0.359
Current President's Budget	0.345	0.352	0.359	-	0.359
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 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603002DHA / *Medical Advanced Technology (AFRRI)*	Project (Number/Name) 030A / *CSI - Congressional Special Interests*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
030A: *CSI - Congressional Special Interests*	0.031	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

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 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
242A: *Biodosimetry (USUHS)*	1.648	0.206	0.210	0.214	-	0.214	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

For the Uniformed Services University of the Health Sciences/Armed Forces Radiobiology Research Institute (USU/AFRRI), this program supports applied research for advanced development of biomedical strategies to prevent, treat and assess health consequences from exposure to ionizing radiation. It capitalizes on findings under PE 0602787HP, Medical Technology, and from industry and academia to advance novel medical countermeasures into and through pre-clinical studies toward newly licensed products. Program objectives focus on mitigating the health consequences from exposures to ionizing radiation (alone or in combination with other injuries) that represent the highest probable threat to US forces in current tactical, humanitarian and counterterrorism mission environments. Findings from basic and developmental research are integrated into focused advanced technology development studies to produce the following: (1) protective and therapeutic strategies; (2) novel biological markers and delivery platforms for rapid, field-based individual medical assessment; and (3) experimental data needed to build accurate models for predicting casualties from complex injuries involving radiation and other battlefield insults. The AFRRI, because of its multidisciplinary staff and exceptional laboratory and radiation facilities, is uniquely positioned to execute the program as prescribed by its mission.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Biodosimetry (USUHS)	0.206	0.210	0.214
Description: Biodosimetry (USUHS): For the Uniformed Services University of the Health Sciences (USUHS), this program supports applied research for advanced development of biomedical and biophysical strategies to assess health consequences from exposure to ionizing radiation. It capitalizes on findings under PE 0602787HP, Medical Technology, and from industry and academia to advance novel biological markers and delivery platforms for rapid, field-based individual dose assessment and experimental data needed to build accurate models for predicting casualties from complex injuries involving radiation and other battlefield insults. ***FY 2021 Plans:*** - Continue efforts to transition cytogenetic assay (i.e., DCA) for dose assessment to a clinical practice. - Expand the validation of cytogenetic assays for dose assessment using the premature chromosome condensation (PCC) assay as a secondary endpoint for radiation dose and partial-body assessment. - Contribute as a lecturer in NATO-sponsored course (Software tools for triage of the acute radiation syndrome: a practical workshop StTARS-2021, Oak Ridge, TN) addressing AFRRI's biodosimetry software tools (BAT, WinFRAT, mFRAT). - Establish validation data using animal model system (i.e., baboon) on the use of multiple blood cell-based hematology algorithm to distinguish whether individuals are exposed to < or > 2 Gy radiation. - Continue efforts on Air Force LINAC project in analyzing cytogenetic blood lymphocytes samples. ***FY 2022 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
FY 2022 plans continue efforts as outlined in FY 2021. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Pricing adjustment for inflation.			
Accomplishments/Planned Programs Subtotals	0.206	0.210	0.214

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

The program element 0602787DHA for AFRRI in addition to the three program elements: 0601115HPPE, 0602115HPPE, 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

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
242B: *Radiation Countermeasures (USUHS)*	1.106	0.139	0.142	0.145	-	0.145	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Radiation Countermeasures (USU): For the Uniformed Services University of the Health Sciences (USU), this program supports applied research for advanced development of biomedical strategies to prevent and treat health consequences from exposure to ionizing radiation. It capitalizes on findings under PE 0602787HP, Medical Technology, and from industry and academia to advance novel medical countermeasures into and through pre-clinical studies toward newly licensed products. Program objectives focus on preventing or mitigating the health consequences from exposures to ionizing radiation alone or in combination with other injuries, in the context of probable threats to US forces in current tactical, humanitarian and counterterrorism mission environments. Findings from basic and developmental research are integrated into highly focused advanced technology development studies yielding protective and therapeutic strategies.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Radiation Countermeasures (USUHS)	0.139	0.142	0.145

Description: Radiation Countermeasures (USU): For the Uniformed Services University of the Health Sciences (USU), this program supports applied research for advanced development of biomedical strategies to prevent and treat health consequences from exposure to ionizing radiation. It capitalizes on findings under PE 0602787HP, Medical Technology, and from industry and academia to advance novel medical countermeasures into and through pre-clinical studies toward newly licensed products. Program objectives focus on preventing or mitigating the health consequences from exposures to ionizing radiation alone or in combination with other injuries, in the context of probable threats to US forces in current tactical, humanitarian and counterterrorism mission environments. Findings from basic and developmental research are integrated into highly focused advanced technology development studies yielding protective and therapeutic strategies.

FY 2021 Plans:

FY 2021 plans continue efforts as outlined in FY 2020 in addition to the following:
- Study energy-genesis in small intestine samples of male and female mice after mixed-field high-LET radiation exposure.
- Plan to look into NRF1, NRF2, complexes 1-V profiles, DRP1, Mfn1(mitochondrial remodeling biomarkers), AKT activation, MAPK activation,
mdm2, and p53 in ileum samples of male and female mice after mixed-field high-LET N/AFY 2 radiation exposure.

FY 2022 Plans:

FY 2022 plans continue efforts as outlined in FY2021.

FY 2021 to FY 2022 Increase/Decrease Statement:

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
Pricing adjustment for inflation.			
Accomplishments/Planned Programs Subtotals	0.139	0.142	0.145

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

The program element 0602787DHA for AFRRI in addition to the three program elements: 0601115HPPE, 0602115HPPE, 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

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency											Date: May 2021	
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 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	9,067.680	2,097.085	1,932.465	235.197	-	235.197	-	-	-	-	Continuing	Continuing
300A: *CSI - Congressional Special Interests*	7,347.005	1,502.654	1,702.215	0.000	-	0.000	-	-	-	-	-	-
238C: *Air & Space Austere Environment Patient Care and Transport (AF)*	31.358	8.088	11.250	12.675	-	12.675	-	-	-	-	Continuing	Continuing
284B: *Air & Space Physiology, Medicine and Human Performance (AF)*	26.343	5.633	10.418	11.122	-	11.122	-	-	-	-	Continuing	Continuing
285A: *Operational Medicine Research & Development (Budgeted) (AF)*	29.889	5.514	0.232	0.000	-	0.000	-	-	-	-	Continuing	Continuing
307B: *Air & Space Force Health Protection (AF)*	72.572	9.919	10.046	11.463	-	11.463	-	-	-	-	Continuing	Continuing
308B: *Expeditionary Medicine Research & Development (Budgeted) (AF)*	24.981	4.737	2.623	0.000	-	0.000	-	-	-	-	Continuing	Continuing
309A: *Regenerative Medicine (USUHS)*	55.997	10.209	10.413	10.621	-	10.621	-	-	-	-	Continuing	Continuing
378B: *CoE-Breast Cancer Center of Excellence (USU)*	29.556	10.475	10.685	10.898	-	10.898	-	-	-	-	Continuing	Continuing
379B: *CoE-Gynecological Cancer Center of Excellence (USU)*	25.837	9.158	9.341	9.528	-	9.528	-	-	-	-	Continuing	Continuing
382B: *CoE-Pain Center of Excellence (USUHS)*	14.103	3.376	1.945	2.014	-	2.014	-	-	-	-	Continuing	Continuing
383A: *CoE-Prostate Cancer Center of Excellence (USUHS)*	56.993	8.359	8.526	8.696	-	8.696	-	-	-	-	Continuing	Continuing
431A: *Underbody Blast Testing (Army)*	59.411	9.200	0.000	0.000	-	0.000	-	-	-	-	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency										Date: May 2021		
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0603115DHA *I Medical Technology Development*							
448A: *Military HIV Research Program (Army)*	38.639	7.877	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
830A: *Deployed Warfighter Protection (Army)*	39.819	6.345	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
478: *Applied Proteogenomics Organizational Learning and Outcomes (APOLLO) Consortium (USUHS)*	29.003	18.566	18.640	18.724	-	18.724	-	-	-	-	Continuing	Continuing
479: *Framingham Longitudinal Study (USUHS)*	9.666	4.920	4.920	4.920	-	4.920	-	-	-	-	Continuing	Continuing
499: *MHS Financial System Acquisition (DHA)*	35.580	15.373	1.971	6.011	-	6.011	-	-	-	-	Continuing	Continuing
381: *CoE - Integrative Cardiac Health Care (USUHS)*	2.811	3.118	1.680	1.744	-	1.744	-	-	-	-	Continuing	Continuing
504: *WRAIR Vaccine Production Facility Research (Army)*	8.000	8.152	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
506: *Health Research for Improved Medical Readiness and Healthcare Delivery (USUHS)*	0.000	11.904	11.141	11.385	-	11.385	-	-	-	-	Continuing	Continuing
507: *Brain Injury and Disease Prevention, Treatment and Research (USUHS)*	0.000	13.317	13.583	13.855	-	13.855	-	-	-	-	Continuing	Continuing
508: *Psychological Health and Resilience (USUHS)*	0.000	7.000	7.140	7.283	-	7.283	-	-	-	-	Continuing	Continuing
509: *Innovative Technologies for Improved Medical Diagnoses, Rehabilitation and Warfighter Readiness (USUHS)*	0.000	19.323	13.710	14.104	-	14.104	-	-	-	-	Continuing	Continuing
373: *GDF - Medical Technology Development*	1,130.117	78.868	5.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
373A: *GDF - MTD (Combat Casualty Care)*	0.000	0.000	11.168	15.736	-	15.736	-	-	-	-	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency											Date: May 2021	
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*					R-1 Program Element (Number/Name) PE 0603115DHA *I Medical Technology Development*							
373B: *GDF - MTD (Military Operational Medicine)*	0.000	0.000	23.255	19.046	-	19.046	-	-	-	-	Continuing	Continuing
373C: *GDF - MTD (Medical Simulation & Training/Health Informatics)*	0.000	0.000	12.613	13.044	-	13.044	-	-	-	-	Continuing	Continuing
373D: *GDF - MTD (Clinical and Rehabilitation Medicine)*	0.000	0.000	13.040	14.980	-	14.980	-	-	-	-	Continuing	Continuing
373E: *GDF - MTD (Military Infectious Disease)*	0.000	0.000	6.409	6.630	-	6.630	-	-	-	-	Continuing	Continuing
373F: *GDF - MTD (Radiological Health Effects)*	0.000	0.000	0.501	0.518	-	0.518	-	-	-	-	Continuing	Continuing
373G: *GDF - MTD (Military Medical Photonics)*	0.000	0.000	10.000	10.200	-	10.200	-	-	-	-	Continuing	Continuing
519: *CARES Act - H.R. 748, (P.L. 116-136)*	-	315.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Guidance for Development of the Force - Medical Technology Development: 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 Quadrennial Defense Review, the National Research Action Plan for Improving Access to Mental Health Services for Veterans, Service Members, and Military Families, the National Strategy for Combating Antibiotic Resistance, and the National Strategy for Biosurveillance.

Research will support efforts such as the Precision Medicine Initiative which seeks to increase the use of big data and interdisciplinary approaches to establish a fundamental understanding of military disease and injury to advance health status assessment, diagnosis, and treatment tailored to individual Service members and beneficiaries, translational research focused on protection against emerging infectious disease threats, the advancement of state of the art regenerative medicine manufacturing technologies consistent with the National Strategic Plan for Advanced Manufacturing, the advancement of global health engagement and capitalization of complementary research and technology capabilities, improving deployment military occupational and environmental exposure monitoring, and the strengthening of the scientific basis for decision-making in patient safety and quality performance in the Military Health System. The program also supports the Interagency Strategic Plan for Research & Development of Blood Products and Related Technologies for Trauma Care and Emergency Preparedness. 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, the Department of Health and Human Services, and the Department of Homeland Security. 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency	Date: May 2021
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0603115DHA *I Medical Technology Development*

For the Army Medical Command -

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

The military human immunodeficiency virus (HIV) research project provides funds to develop candidate HIV vaccines, to assess their safety and effectiveness in human subjects, and to protect military personnel from risks associated with HIV infection.

The Armed Forces Pest Management Board Deployed Warfighter Protection program provides for the development of new or improved protection of military personnel from insects and tick vectors of disease pathogens.

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 (Army) 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.

In FY 2017, Congressional Special Interest (CSI) funds were added to support peer-reviewed research programs: Amyotrophic Lateral Sclerosis (ALS), Autism, Bone Marrow Failure Disease, Ovarian Cancer, Multiple Sclerosis, Cancer, Lung Cancer, Orthopedic, Spinal Cord, Vision, Traumatic Brain Injury and Psychological Health (TBI/PH), Breast Cancer, Prostate Cancer, Gulf War Illness, Alcohol and Substance Use Disorders, Medical Research, Alzheimer's, Reconstructive Transplant, Tuberous Sclerosis Complex, Duchenne Muscular Dystrophy, Epilepsy, and Tick-borne diseases. CSI funds were also provided for Joint Warfighter Medical Research, Orthotics and Prosthetics Outcomes, Trauma Clinic Research, HIV/AIDS Program Increase, Global HIV/AIDS Prevention, and Core Research Funding. Because of the CSI annual structure, out-year funding is not programmed.

For the Navy Bureau of Medicine and Surgery, this program element includes funds for research management support costs. The Outside Continental US (OCONUS) laboratories conduct focused medical research on vaccine development for Malaria, Diarrhea Diseases, and Dengue Fever. In addition to entomology, HIV studies, surveillance and outbreak response under the Global Emerging Infections Surveillance (GEIS) program and risk assessment studies on a number of other infectious diseases that are present in the geographical regions where the laboratories are located. The CONUS laboratories conduct research on Military Operational Medicine, Combat Casualty Care, Diving and Submarine Medicine, Infectious Diseases, Environmental and Occupational Health, Directed Energy, and Aviation Medicine and Human Performance.

For the Air Force Medical Service (AFMS), 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.

B. Program Change Summary ($ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	1,782.072	225.250	235.197	-	235.197
Current President's Budget	2,097.085	1,932.465	235.197	-	235.197
Total Adjustments	315.013	1,707.215	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	315.000	1,707.215			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.013	-			
• SBIR/STTR Transfer	-	-			

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency	Date: May 2021
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 2020	FY 2021
Project: 300A: *CSI - Congressional Special Interests*		
Congressional Add: *245A - Amyotrophic Lateral Sclerosis (ALS) Research*	20.000	40.000
Congressional Add: *293A - Autism Research*	15.000	15.000
Congressional Add: *296A - Bone Marrow Failure Disease Research*	3.000	7.500
Congressional Add: *310A - Peer-Reviewed Ovarian Cancer Research*	35.000	35.000
Congressional Add: *328A - Peer- Reviewed Multiple Sclerosis Research*	16.000	20.000
Congressional Add: *335A - Peer-Reviewed Cancer Research*	110.000	115.000
Congressional Add: *336A - Peer-Reviewed Lung Cancer Research*	14.000	20.000
Congressional Add: *337A - Peer-Reviewed Orthopaedic Research*	30.000	30.000
Congressional Add: *338A - Peer-Reviewed Spinal Cord Research*	40.000	40.000
Congressional Add: *339A - Peer-Reviewed Vision Research*	20.000	20.000
Congressional Add: *352A - Traumatic Brain Injury/Psychological Health Research*	106.000	175.000
Congressional Add: *380A - Peer-Reviewed Breast Cancer Research*	150.000	150.000
Congressional Add: *390A - Peer-Reviewed Prostate Cancer Research*	110.000	110.000
Congressional Add: *392A - Gulf War Illness Peer-Reviewed Research*	22.000	22.000
Congressional Add: *396A - Research in Alcohol and Substance Use Disorders*	0.000	4.000
Congressional Add: *400A - Peer-Reviewed Medical Research*	360.000	370.000
Congressional Add: *417A - Peer-Reviewed Alzheimer Research*	15.000	15.000
Congressional Add: *439A - Joint Warfighter Medical Research*	30.000	32.000
Congressional Add: *452A - Peer-Reviewed Reconstructive Transplant Research*	12.000	12.000
Congressional Add: *454A - Orthotics and Prosthetics Outcomes Research*	15.000	15.000
Congressional Add: *456A - HIV/AIDS Program*	15.000	16.000
Congressional Add: *459A - Peer-Reviewed Epilepsy Research*	12.000	12.000
Congressional Add: *463A – Program Increase: Restore Core Research Funding Reduction (GDF)*	185.151	221.215
Congressional Add: *495 - Peer-Reviewed Tick-Borne Disease Research*	7.000	7.000
Congressional Add: *496 -Trauma Clinical Research Program*	10.000	10.000
Congressional Add: *501 - Peer-Reviewed Hearing Restoration Research (Army)*	10.000	10.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency	Date: May 2021
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 2020	FY 2021
Congressional Add: *502 - CSI - Peer-Reviewed Kidney Cancer Research (Army)*	40.000	50.000
Congressional Add: *503 - CSI - Peer-Reviewed Lupus Research (Army)*	10.000	10.000
Congressional Add: *540A - Global HIV/AIDS Prevention (Navy)*	8.000	8.000
Congressional Add: *660A - Tuberous Sclerosis Complex (TSC)*	6.000	8.000
Congressional Add: *790A - Peer-Reviewed Duchenne Muscular Dystrophy*	10.000	10.000
Congressional Add: *512 - Peer-Reviewed Melanoma Research*	20.000	30.000
Congressional Add: *513 - Chronic Pain Management*	15.000	15.000
Congressional Add: *514 - Combat Readiness Medical Research*	10.000	10.000
Congressional Add: *515 - Peer-Reviewed Pancreatic Cancer Research*	6.000	15.000
Congressional Add: *516 - Peer-Reviewed Rare Cancers Research*	7.500	17.500
Congressional Add: *517 - Peer-Reviewed Scleroderma Research*	5.000	5.000
Congressional Add: *N/a rounding effort*	3.003	0.000
Congressional Add Subtotals for Project: 300A	1,502.654	1,702.215
Project: 519: *CARES Act - H.R. 748, (P.L. 116-136)*		
Congressional Add: *CARES Act - H.R. 748, (P.L. 116-136)*	315.000	-
Congressional Add Subtotals for Project: 519	315.000	-
Congressional Add Totals for all Projects	1,817.654	1,702.215

Change Summary Explanation

Project 519 was created for CARES Act - H.R. 748, (P.L. 116-136) funding totaling $315M.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
300A: *CSI - Congressional Special Interests*	7,347.005	1,502.654	1,702.215	0.000	-	0.000	-	-	-	-	-	-

(+) The sum of all Prior Years is $225.250 million less than the represented total due to several projects ending

A. Mission Description and Budget Item Justification

In FY 2018, 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)	FY 2020	FY 2021
Congressional Add: 245A - Amyotrophic Lateral Sclerosis (ALS) Research	20.000	40.000
FY 2020 Accomplishments: FY20 Congressional Add		
FY 2021 Plans: FY21 Congressional Add		
Congressional Add: 293A - Autism Research	15.000	15.000
FY 2020 Accomplishments: FY20 Congressional Add		
FY 2021 Plans: FY21 Congressional Add		
Congressional Add: 296A - Bone Marrow Failure Disease Research	3.000	7.500
FY 2020 Accomplishments: FY20 Congressional Add		
FY 2021 Plans: FY20 Congressional Add		
Congressional Add: 310A - Peer-Reviewed Ovarian Cancer Research	35.000	35.000
FY 2020 Accomplishments: FY20 Congressional Add		
FY 2021 Plans: FY21 Congressional Add		
Congressional Add: 328A - Peer- Reviewed Multiple Sclerosis Research	16.000	20.000
FY 2020 Accomplishments: FY20 Congressional Add		
FY 2021 Plans: FY21 Congressional Add		
Congressional Add: 335A - Peer-Reviewed Cancer Research	110.000	115.000

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021
FY 2020 Accomplishments: FY20 Congressional Add ***FY 2021 Plans:*** FY21 Congressional Add		
Congressional Add: 336A - Peer-Reviewed Lung Cancer Research ***FY 2020 Accomplishments:*** FY20 Congressional Add ***FY 2021 Plans:*** FY21 Congressional Add	14.000	20.000
Congressional Add: 337A - Peer-Reviewed Orthopaedic Research ***FY 2020 Accomplishments:*** FY20 Congressional Add ***FY 2021 Plans:*** FY21 Congressional Add	30.000	30.000
Congressional Add: 338A - Peer-Reviewed Spinal Cord Research ***FY 2020 Accomplishments:*** FY20 Congressional Add ***FY 2021 Plans:*** FY21 Congressional Add	40.000	40.000
Congressional Add: 339A - Peer-Reviewed Vision Research ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	20.000	20.000
Congressional Add: 352A - Traumatic Brain Injury/Psychological Health Research ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	106.000	175.000
Congressional Add: 380A - Peer-Reviewed Breast Cancer Research ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	150.000	150.000
Congressional Add: 390A - Peer-Reviewed Prostate Cancer Research ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	110.000	110.000
Congressional Add: 392A - Gulf War Illness Peer-Reviewed Research	22.000	22.000

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021
FY 2020 Accomplishments: Congressional Add ***FY 2021 Plans:*** Congressional Add		
Congressional Add: 396A - Research in Alcohol and Substance Use Disorders ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	0.000	4.000
Congressional Add: 400A - Peer-Reviewed Medical Research ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	360.000	370.000
Congressional Add: 417A - Peer-Reviewed Alzheimer Research ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	15.000	15.000
Congressional Add: 439A - Joint Warfighter Medical Research ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	30.000	32.000
Congressional Add: 452A - Peer-Reviewed Reconstructive Transplant Research ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	12.000	12.000
Congressional Add: 454A - Orthotics and Prosthetics Outcomes Research ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	15.000	15.000
Congressional Add: 456A - HIV/AIDS Program ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	15.000	16.000
Congressional Add: 459A - Peer-Reviewed Epilepsy Research	12.000	12.000

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021
FY 2020 Accomplishments: Congressional Add ***FY 2021 Plans:*** Congressional Add		
Congressional Add: 463A – Program Increase: Restore Core Research Funding Reduction (GDF) ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	185.151	221.215
Congressional Add: 495 - Peer-Reviewed Tick-Borne Disease Research ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	7.000	7.000
Congressional Add: 496 -Trauma Clinical Research Program ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	10.000	10.000
Congressional Add: 501 - Peer-Reviewed Hearing Restoration Research (Army) ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	10.000	10.000
Congressional Add: 502 - CSI - Peer-Reviewed Kidney Cancer Research (Army) ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	40.000	50.000
Congressional Add: 503 - CSI - Peer-Reviewed Lupus Research (Army) ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	10.000	10.000
Congressional Add: 540A - Global HIV/AIDS Prevention (Navy) ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	8.000	8.000
Congressional Add: 660A - Tuberous Sclerosis Complex (TSC)	6.000	8.000

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021
FY 2020 Accomplishments: Congressional Add ***FY 2021 Plans:*** Congressional Add		
Congressional Add: 790A - Peer-Reviewed Duchenne Muscular Dystrophy ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	10.000	10.000
Congressional Add: 512 - Peer-Reviewed Melanoma Research ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	20.000	30.000
Congressional Add: 513 - Chronic Pain Management ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	15.000	15.000
Congressional Add: 514 - Combat Readiness Medical Research ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	10.000	10.000
Congressional Add: 515 - Peer-Reviewed Pancreatic Cancer Research ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	6.000	15.000
Congressional Add: 516 - Peer-Reviewed Rare Cancers Research ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	7.500	17.500
Congressional Add: 517 - Peer-Reviewed Scleroderma Research ***FY 2020 Accomplishments:*** Congressional Add ***FY 2021 Plans:*** Congressional Add	5.000	5.000
Congressional Add: N/a rounding effort	3.003	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021
FY 2020 Accomplishments: Congressional Add		
FY 2021 Plans: Congressional Add		
Congressional Adds Subtotals	1,502.654	1,702.215

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 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
238C: *Air & Space Austere Environment Patient Care and Transport (AF)*	31.358	8.088	11.250	12.675	-	12.675	-	-	-	-	Continuing	Continuing

(+) The sum of all Prior Years is $0.295 million less than the represented total due to several projects ending

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 - Biomedical Impact and Readiness Optimization of Air & Space Operations, 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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Air & Space Austere Environment Patient Care and Transport (AF)	8.088	11.250	12.675

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.

FY 2021 Plans:

Develop military-relevant models of injury and clinical presentation and evaluate the risks for secondary insult due to transport. Advance therapeutics and novel interventions that mitigate combat casualty care injuries and reduce risks due to transport. Mature technology that reduces size, weight and power, and cold-chain management requirements, and enhances inter-service operability. Model and optimize care provider performance in enroute care operational environments. Continue pursuing the Air Force Medical Service (AFMS) strategic goal A1 to "Transform the Enroute Care System" based on war fighter identified gaps and validated requirements. Analyses will be conducted assessing the critical impact of hypobaria after hemorrhage and resuscitation in a model of hemorrhagic injury.

FY 2022 Plans:

Continue efforts to develop military-relevant models of injury and clinical progression during enroute care, advancing technologies for autonomous patient care and decision-assist, equipment with reduced size, weight and power or cold-chain management

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
requirements, as well as continue to optimize labor and resource requirements for future medical combat casualty care operations. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Increase is due to inflation.			
Accomplishments/Planned Programs Subtotals	8.088	11.250	12.675

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• BA-1, PE 0807714HP: *Other Consolidated Health Support*	-	-	-	-	-	-	-	-	-		

Remarks

Accomplishments: Transitioned technology to provide closed-looped control of oxygen delivery, an updated spinal immobilization transport capability, and updated guidance for the Validating Flight Surgeon community regarding the use of Cabin Altitude Restriction prescriptions on Strategic Aeromedical Evacuation. Gained insight on the critical impacts of hypobaria on hemorrhage and resuscitation and progressed in developing countermeasures and treatments for muscle injury and hemorrhagic shock in a hypobaric environment. A life trajectory comparison was performed between psychiatric aeromedical evacuation and non-psychiatric aeromedical evacuation patients to enhance enroute care practices and a targeted analysis of steroid-related metabolites was performed as a method to reduce post-traumatic stress disorder.

D. Acquisition Strategy

Air Force contracting, Interagency Agreements, and Inter-service Support Agreements with the U.S. Army, U.S. Navy and the Department of Homeland Security are used to support ongoing scientific and technical efforts within this program. These agreements are supplemented with Broad Area Announcements (BAA) and Intramural calls for proposals, which are used to award initiatives in this project following determinations of scientific and technical merit, validation of need, prioritization, selection and any necessary legal and / or regulatory approvals (IRB, etc.).

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
284B: *Air & Space Physiology, Medicine and Human Performance (AF)*	26.343	5.633	10.418	11.122	-	11.122	-	-	-	-	Continuing	Continuing

(+) The sum of all Prior Years is $0.205 million less than the represented total due to several projects ending

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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Air & Space Physiology, Medicine and Human Performance (AF)	5.633	10.418	11.122
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 sensors and targeted conditioning, which includes training techniques for optimal performance. ***FY 2021 Plans:*** Continue implementation of the Optimization of Air Force Human Capital research plan focused on medical readiness to support airman mission alignment. Advance understanding of appropriate selection pertaining to new accessions, job placement, injury reduction and retention. Continue assessment and validation of standards across research lines in the areas of vision, psychology, and physiology for high risk and high demand AF career fields, to include those related to unexplained physiological events (UPEs). Develop model to assess and validate performance and risk criteria for individuals within specific career fields. ***FY 2022 Plans:*** FY 2022 plans continue efforts as outlined in FY 2021. Specific focus includes updating air breathing standards for On-Board Oxygen Generating System (OBOGS) Aircraft to reduce UPEs and updating alignment criteria for Distributed Common Ground System (DCGS), Cyber, Surveillance, Intelligence, and Remotely Piloted Aircraft service members. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Increase is due to inflation			
Accomplishments/Planned Programs Subtotals	5.633	10.418	11.122

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Accomplishments: Successfully delivered Contract Data Requirements List (CDRL) for the Precision-Based Airmen Optimization (PBAO) Basic Performance Resources (BPR) Inventory in Jan 2020 (6 months ahead of schedule). Successfully completed initial tests involving BPR data collection process across vision, psychologic, physiologic, and audio domains. Also, refined and validated high-level tasks with operational subject matter experts in their respective career fields. Lastly, determined the impact of lower extremity stress fracture on the career trajectories of USAF Basic Military Trainees.

D. Acquisition Strategy

Air Force contracting, Interagency Agreements, and Inter-service Support Agreements with the U.S. Army, U.S. Navy and the Department of Homeland Security are used to support ongoing scientific and technical efforts within this program. These agreements are supplemented with Broad Area Announcements (BAA) and Intramural calls for proposals, which are used to award initiatives in this project following determinations of scientific and technical merit, validation of need, prioritization, selection and any necessary legal and / or regulatory approvals (IRB, etc.).

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
285A: *Operational Medicine Research & Development (Budgeted) (AF)*	29.889	5.514	0.232	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 2020	FY 2021	FY 2022
Title: Operational Medicine Research & Development (Budgeted) (AF)	5.514	0.232	-
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 2021 Plans:*** The current military separation and retirement practices by health care providers will be investigated, including assessment and communication of diabetes risk to separating or retiring members and counseling regarding how to minimize risk. Continued research includes the development of an exportable Diabetes Self-Management Education (DSME) methodology that can be used throughout the Military Health System (MHS) to support national diabetes education and support standards for patient care. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Reduced funding due to realignment within Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), Program Element (PE) 0603115DHA, Project Codes 285A, 308B, 238C, 284B, and 307B to focus on future readiness mission and operational medical capabilities required to support the warfighter.			
Accomplishments/Planned Programs Subtotals	5.514	0.232	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Accomplishments: Genetic risk factors for pulmonary disorders were investigated, development progressed on a self-repairing dental material, military separation and retirement practices were investigated by health care providers to minimize diabetes risk, and smart hydrogels were evaluated as a method for graft targeted immunotherapy in reconstructive transplantation.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)*

D. Acquisition Strategy

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

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
307B: *Air & Space Force Health Protection (AF)*	72.572	9.919	10.046	11.463	-	11.463	-	-	-	-	Continuing	Continuing

(+) The sum of all Prior Years is $0.362 million less than the represented total due to several projects ending

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 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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Air & Space Force Health Protection (AF)	9.919	10.046	11.463
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. ***FY 2021 Plans:*** To detect Airman relative medical threats and stressors using comprehensive monitoring solutions and specific analyte real-time sensing while establishing framework for data automation. These efforts seek to establish solid ground for the transition of relevant models and sensing technologies for advanced prototyping. ***FY 2022 Plans:*** To analyze detected threats and stressors using human model development (an in silico / in vitro tool to understand the impact of environmental and chemical stresses on the human) enroute to utilizing mitigation strategies coordinated with the operational community. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Increase due to inflation			
Accomplishments/Planned Programs Subtotals	9.919	10.046	11.463

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)*

C. Other Program Funding Summary ($ in Millions)

Remarks

Accomplishments: Successful decontamination of multiple aircraft in response to COVID-19. Characterization and modeling of airflow on multiple aircraft for optimal cabin air filtering in response to COVID-19. Genetic mutations were evaluated for conferring resistance to infectious diseases; preventive medicine methods were developed for conducting epidemiological queries in training populations; and technologies, therapies, and tools to detect, diagnose, and deter directed energy or radio frequency exposures were evaluated to prevent, preserve, and protect cells.

D. Acquisition Strategy

Air Force contracting, Interagency Agreements, and Inter-service Support Agreements with the U.S. Army, U.S. Navy and the Department of Homeland Security are used to support ongoing scientific and technical efforts within this program. These agreements are supplemented with Broad Area Announcements (BAA) and Intramural calls for proposals, which are used to award initiatives in this project following determinations of scientific and technical merit, validation of need, prioritization, selection and any necessary legal and / or regulatory approvals (IRB, etc.).

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
308B: *Expeditionary Medicine Research & Development (Budgeted) (AF)*	24.981	4.737	2.623	0.000	-	0.000	-	-	-	-	Continuing	Continuing

(+) The sum of all Prior Years is $0.173 million less than the represented total due to several projects ending

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 2020	FY 2021	FY 2022
Title: Expeditionary Medicine Research & Development (Budgeted) (AF)	4.737	2.623	-
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 2021 Plans:*** Research will continue to evaluate therapies to treat acute non-compressible torso hemorrhage, including Resuscitative Endovascular Balloon Occlusion (REBOA) and the Abdominal Aortic and Junctional Tourniquet (AAJT), a next generation tourniquet. Work will continue on the development of VentRight, which will allow for portable ventilation monitoring. The Autonomous Selective Organ Perfusion (ASOP) platform will be developed for prolonged field and enroute care applications suitable for life and limb salvage technologies. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Reduced funding due to realignment within Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), Program Element (PE) 0603115DHA, Project Codes 285A, 308B, 238C, 284B , and 307B to focus on future readiness mission and operational medical capabilities required to support the warfighter.			
Accomplishments/Planned Programs Subtotals	4.737	2.623	-

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)*

C. Other Program Funding Summary ($ in Millions)

Remarks

Accomplishments: Therapies to restore peripheral nerve regeneration were evaluated, development progressed on a portable ventilation monitoring capability, surgical methods and therapeutics were assessed to assist in prolonged field care / delayed evaluation applications, a teleophthalmology (tele-optometry) protocol was developed for military ophthalmologists, and medicine stability in high humidity and extreme temperatures was evaluated.

D. Acquisition Strategy

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

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
309A: *Regenerative Medicine (USUHS)*	55.997	10.209	10.413	10.621	-	10.621	-	-	-	-	Continuing	Continuing

(+) The sum of all Prior Years is $0.342 million less than the represented total due to several projects ending

A. Mission Description and Budget Item Justification

The Center for Neuroscience and Regenerative Medicine (CNRM) brings together the expertise of clinicians and scientists across disciplines to catalyze innovative approaches to traumatic brain injury (TBI) research. CNRM Research Programs emphasize aspects of high relevance to military populations, with a primary focus on patients at the Walter Reed National Military Medical Center.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Regenerative Medicine (USUHS)	10.209	10.413	10.621

Description: The Center for Neuroscience and Regenerative Medicine (CNRM) brings together the expertise of clinicians and scientists across disciplines to catalyze innovative approaches to traumatic brain injury (TBI) research. CNRM Research Programs emphasize aspects of high relevance to military populations, with a primary focus on patients at the Walter Reed National Military Medical Center. The CNRM has established 11 research cores and funded 131 research projects.

FY 2021 Plans:

The Center for Neuroscience and Regenerative Medicine's (CNRM) objectives include: (1) Continue interdisciplinary, collaborative studies that bring together expertise across the Uniformed Services University (USU), the Walter Reed National Military Medical Center (WRNMMC), and the National Institutes of Health (NIH) to perform the highest priority traumatic brain injury (TBI) research, with a particular emphasis in interventional trials in animals and humans, that studies military-related TBI and its comorbidities; (2) Continue operational capability of all Cores to provide efficient research infrastructure with high quality resources and technical expertise; (3) Continued development of the Clinical Trials Unit and expand clinical research capability to increase the number of interventional trials; (4) Define focus areas of next research stage and best funding format for those directions, optimize research teams, and support new research projects pending availability of FY21 funding; (5) Disseminate findings of CNRM basic, translational, and clinical research; (6) Host virtual CNRM Retreat and internal data discussions to foster cross-fertilization of expertise and innovative development across translational and clinical research; (7) Host annual research Symposium to foster interaction among TBI research organizations (postponed due to COVID); (8) Support open data access to completed clinical studies to qualified federal and academic investigators; (9) Provide biofluids specimens for use in approved research protocols within CNRM and to other qualified federal and academic investigators; (10) Partner with other funding agencies and commercial entities to advance translation of CNRM research; (11) Support fellowship program to facilitate training of the next generation of leaders in military-relevant TBI research and clinical care at three sites (USU, NIH, and University of Maryland's

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
School of Medicine) in the Washington D.C. area; (12) Participation in the development of a unified response to the 01OCT18 Deputy Secretary of Defense memo entitled a "Comprehensive Strategy and Action Plan for Warfighter Brain Health"; (13) Utilize Biospecimen Bank of blood specimens linked to magnetic resonance imaging (MRI) and clinical assessment data in longitudinal studies of TBI patients and relevant comparison cohorts; (14) Creation of work flow pipeline for accurate and efficient analysis of neuroimaging data relevant to TBI, including quantitative analysis of microhemorrhages, traumatic meningeal injury, and white matter abnormalities; (15) Utilize multiple animal models involving multiple species for improved analysis of acute and chronic effects of TBI relevant to the warfighter, including blast exposure, repetitive injury, and stress conditions. ***FY 2022 Plans:*** FY 2022 plans continue efforts as outlined in FY 2021. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Price adjustment for inflation.			
Accomplishments/Planned Programs Subtotals	10.209	10.413	10.621

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• BA-1, 0806721HP: *Uniformed Services University of the Health Sciences*	9.840	10.036	10.236	-	10.236	-	-	-	-	Continuing	Continuing

Remarks

Provides funding to conduct Natural History study; Infrastructure to support the CNRM program; and salaries of neuroscience faculty and technical and administrative support personnel.

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 (USU)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
378B: *CoE-Breast Cancer Center of Excellence (USU)*	29.556	10.475	10.685	10.898	-	10.898	-	-	-	-	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 2020	FY 2021	FY 2022
Title: Breast Cancer Center of Excellence	10.475	10.685	10.898

Description: 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.

FY 2021 Plans:
FY 2021 plans continue efforts as outlined in FY 2020.

The Program will complete the following:

Objective 1: Identify and consent a minimum of 100 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.
Objective 2: Accrue over 500 patients annually to the “core” USU MCCRP/BC-COE protocols by consenting patients at the main 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) approved breast center in the entire DoD MHS.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 (USU)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Objective 3: Expand our breast tissue acquisition to include more military veterans, by acquiring tissues and enrolling veterans in our protocols who are receiving care at VA hospitals in Palo Alto (California), Durham (North Carolina), and Puget Sound (Washington). 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 diseases and cancer with a new focus on veterans and being able to then look at any relationship between deployment history, environmental exposures, and their service record. Objective 4: Bank these biospecimens in the USU MCCRP's BC-COE Biorepository as the substrate 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. Objective 6: Conduct integrative profiling research, for protein-expression based, clinically relevant breast cancer stratification. Objective 7: Breast cancer studies focused on two special patients groups bearing poor outcomes, who are enriched in the military active-duty military population: young women, and African American women. Objective 8: Focusing 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. 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 life style factors as well as comorbidities. Objective 10: Breast cancer HER2 Targeted Therapy Optimization 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. Objective 12: Analysis of the publicly available TCGA, CPTAC, and other large scale cancer study datasets. ***FY 2022 Plans:*** FY 2022 plans continue efforts as outlined in FY 2021. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Pricing adjustment for inflation.			
Accomplishments/Planned Programs Subtotals	10.475	10.685	10.898

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 (USU)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 (USU)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
379B: *CoE-Gynecological Cancer Center of Excellence (USU)*	25.837	9.158	9.341	9.528	-	9.528	-	-	-	-	Continuing	Continuing

Note

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.

A. Mission Description and Budget Item Justification

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 2020	FY 2021	FY 2022
Title: Gynecological Cancer Center of Excellence	9.158	9.341	9.528

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 (USU)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
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 • The Clinical Proteomics Platform in the GYN-COE processed and analyzed 2224 unique cancer specimens in 2019 with a variance of less than 10%			
FY 2021 Plans: Develop novel strategies for prevention, early detection, and precision treatment of gynecologic cancers by identifying molecular alterations in these diseases. Interrogate ovarian and uterine cancer looking at the complex interplay of tumor cells and the surrounding stroma that supports carcinogenesis as well as the molecular landscape of primary versus metastatic disease. These investigations will facilitate development of clinical biomarkers and assays for gynecologic malignancies throughout the spectrum of care and improve early diagnosis and clinical care.			
FY 2022 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 (USU)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Will continue efforts from FY 2021. In addition, will continue to build on studies examining molecular determinants of recurrent versus non-recurrent disease and how distribution of disease and post-surgical tumor residual influences outcome. Deep proteogenomic analyses will extend current state of the art to reveal clinically actionable data to improve outcomes. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Pricing Adjustment.			
Accomplishments/Planned Programs Subtotals	9.158	9.341	9.528

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
382B: *CoE-Pain Center of Excellence (USUHS)*	14.103	3.376	1.945	2.014	-	2.014	-	-	-	-	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 Pain Center of Excellence is an integral part of the Defense and Veterans Center for Integrative Pain Management (DVCIPM) whose mission is to become a referral center that supports world-class clinical pain services, provides education on all aspects of pain management, coordinates and conducts Institutional Review Board-approved clinical research and Institutional Animal Care and Use Committee-approved basic laboratory and translational pain research, and serves as the advisory organization for developing enterprise-wide pain policy for the Military Health System. In FY 2015, management of the Pain CoE was transferred from Army to USUHS.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Pain Center of Excellence (USUHS)	3.376	1.945	2.014
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. ***FY 2021 Plans:*** FY 2021 Plans continue efforts as outlined in FY 2020. The DVCIPM has developed a 5-year plan for FY20-24 that will focus on further developing the Pain Registry Biobank (PRBioBank) as novel, innovative Institutional Review Board (IRB)-approved registry that combines patient reported outcomes (PASTOR) with blood and tissue samples and other objective measures from participants and Health Services Research and Predictive Modeling. DVCIPM will continue to focus on assimilating complementary and integrative pain management (CIPM), novel analgesics, and interventional pain management. Critical to the continued transformation of DoD pain management, DVCIPM will continue to serve as the MHS's coordinating organization for pain education, clinical policy and knowledge translation. ***FY 2022 Plans:*** FY 2022 plans continue efforts as outlined in FY 2021. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Pricing adjustment for inflation.			
Accomplishments/Planned Programs Subtotals	3.376	1.945	2.014

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
383A: *CoE-Prostate Cancer Center of Excellence (USUHS)*	56.993	8.359	8.526	8.696	-	8.696	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Center for Prostate Disease Research (CPDR) is an interdisciplinary translational cancer research program of the Department of Surgery, Uniformed Services University of the Health Sciences (USU), the Walter Reed National Military Medical Center (WRNMMC), the Murtha Cancer Center, and the Urology Service at WRNMMC. The CPDR conducts state-of-the-art clinical and translational research with emphasis on precision medicine to enhance the readiness of active duty personnel juxtaposed with the continuum of medical care for military retirees and beneficiaries. 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. Ground-breaking discoveries through strong academic and clinical research; e.g., over 24 yrs. and 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, bio-statisticians, medical technologists, research nurses, patient educators, bioinformaticians, 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 program is also committed to translational research training for future generations of physicians and scientists at leading DoD medical institutions (USU, WRNMMC, JPC, NMCSD, MAMC, SAMMC, and TAMC).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: CoE-Prostate Cancer Center of Excellence (USUHS)	8.359	8.526	8.696
Description: The CPDR is at the forefront of "cutting-edge" clinical, basic science and epidemiologic research. The emphasis is on improving diagnosis, prognosis and treatment of prostate cancer involving new modalities such as MRI guided biopsy, gene-based biomarkers, and precision medicine strategies targeting causal gene alterations in prostate cancer. The CPDR multi-center database is a unique programmatic resource, enrolling over 28,500 DoD health care beneficiaries under suspicion for prostate cancer, with longitudinal follow up to 24 years. This database continues to highlight emerging issues in prostate cancer management such e.g., treatment outcomes, racial/ethnic differences, quality of life and discovery of novel molecular prognostic markers. In light of current issues related to overtreatment of early detected prostate cancers and poorly understood biology of prostate cancer, CPDR's long-term biospecimen banks, high-impact discoveries and collaborations are leading towards better diagnostic and prognostic molecular markers and therapeutic targets with promise in improving the management of the disease. The CPDR's health disparity research focus has uniquely benefited from studying a prostate cancer patient cohort, with a high representation of African American men, in an equal-access military health care system. Ground-breaking studies of the most validated prostate cancer gene, ERG, in over 1,500+ patients provide the first definitive information on prostate cancer biology underscoring racial/ethnic differences with potential to enhance personalized medicine. The CPDR's 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.			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
FY 2021 Plans: Leverage long term assets of DoD patient database and biospecimen bank towards delineation of molecular markers to enhance treatment decisions through precision medicine with emphasis on racially diverse patients in equal access military healthcare system. Define prostate cancer prevention strategies by addressing the role of predisposing conditions, military-specific exposures, and genetic components in prostate cancer onset and progression of service members. Lead discoveries of prostate cancer causing genes for diagnosing, prognosing and targeted therapy of racially diverse DoD prostate cancer patients with indolent and aggressive disease. Utilize advanced informatics and logistic platforms for enhancing the integration of clinical, biospecimen and molecular database towards the development of diagnostic and prognostic tools. ***FY 2022 Plans:*** FY 2022 plans continue efforts as outlined in FY 2021. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Pricing adjustment for inflation.			
Accomplishments/Planned Programs Subtotals	8.359	8.526	8.696

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 431A / *Underbody Blast Testing (Army)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
431A: *Underbody Blast Testing (Army)*	59.411	9.200	0.000	0.000	-	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Underbody Blast Testing	9.200	-	-
Description: Testing will provide an understanding of the biomechanics of skeletal injuries that occur in a combat vehicle UBB event involving a landmine or IED, and the biomedical basis for the development of a Warrior-representative blast test manikin and associated biomedically-validated injury criteria that can be used to characterize dynamic events and injury risks for LFT&E crew survivability assessments and vehicle development efforts to better protect Warriors from UBB threats.			
Accomplishments/Planned Programs Subtotals	9.200	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Produce BRC and human injury probability curves for human skeletal response and tolerance in the military UBB environment and transition them to the Program Execution Office for Simulation, Training and Instrumentation for use in the development of the WIAMan UBB test manikin and for general use in the research, development, test and evaluation community. Develop injury assessment reference curves for use with WIAMan manikin to support vehicle and protection technology acquisition decisions.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 448A / *Military HIV Research Program (Army)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
448A: *Military HIV Research Program (Army)*	38.639	7.877	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Military HIV Research Program	7.877	-	-
Description: The Military HIV Research Program aims to develop candidate HIV vaccines, to assess their safety and effectiveness in human subjects, and to protect the military personnel from risks associated with HIV infection. In addition, program also aims to develop other prevention and treatment strategies to mitigate the HIV epidemic globally. This project down-selects one or more vaccine candidates that are optimized through pre-clinical studies in non-human primates and conducts human clinical trials in Africa, Asia and the U.S. to test for safety and immunogenicity (ability to invoke an immune response), and early proof of concept efficacy testing.			
Accomplishments/Planned Programs Subtotals	7.877	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0603115DHA / *Medical Technology Development*	**Project (Number/Name)** 448A / *Military HIV Research Program (Army)*

D. Acquisition Strategy

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

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 830A / *Deployed Warfighter Protection (Army)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
830A: *Deployed Warfighter Protection (Army)*	39.819	6.345	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

For the Armed Forces Pest Management Board (AFPMB), the Deployed Warfighter Protection project plans to develop new or improved protection for ground forces from disease-carrying insects. The focus of this program is to develop new or improved systems for controlling insects that transmit malaria, dengue, chikungunya and other emerging infectious diseases under austere, remote, and combat conditions; understand the physiology of insecticidal activity to develop new compounds with greater specific activity and/or higher user acceptability; examine existing area repellents for efficacy and develop new spatially effective repellent systems useful in military situations; develop new methods or formulations for treating cloth to prevent vector biting; and expand the number of active ingredients and formulations of public health pest pesticides, products and application technologies available for safe, and effective applications. The AFPMB partners with the President's Malaria Initiative and the World Health Organization Global Malaria Program to lead development of new tools for insect-borne disease prevention.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Deployed Warfighter Protection	6.345	-	-
Description: The Deployed Warfighter Protection project will develop new or improved protection for ground forces from disease-carrying insects.			
Accomplishments/Planned Programs Subtotals	6.345	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Develop, mature and field new or improved products and strategies that protect U.S. forces from disease-carrying insects. Identify acquisition-based research and development requirements in a Capability Needs Assessment. Refine target product profiles and performance criteria. Secure registered trademarks, patents, commercial partners, and/or EPA registration of new or improved insecticides, application technologies and repellent systems. Continue to partner with industry to field products and coordinate with the Services, AFPMB, USAMMDA, DLA and relevant Program Executive Offices to transition efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
478: *Applied Proteogenomics Organizational Learning and Outcomes (APOLLO) Consortium (USUHS)*	29.003	18.566	18.640	18.724	-	18.724	-	-	-	-	Continuing	Continuing

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 USU 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 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 2020	FY 2021	FY 2022
Title: DoD Cancer Moonshot - Applied Proteogenomics Organizational Learning and Outcomes (APOLLO) Consortium (USUHS)	18.566	18.640	18.724
Description: Description: DoD's Cancer Moonshot at USU's MCCRP is a research program consisting of two overall projects, the first known as APOLLO (Applied 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 ASDMs). 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 USU, 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			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022

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 7 specific APOLLO sub-projects, which are classified based on the organ type of cancer under study: APOLLO 1 = Lung cancer; APOLLO 2 = Gynecological cancer; APOLLO 3 = Prostate cancer; APOLLO 4 = Breast cancer; and APOLLO 5 = prospectively-collected VA, DoD, and NCI specimens and data for all organ sites, APOLLO 6: Pancreatic Cancer and APOLLO 7 (currently being developed): Testicular Germ Cell Tumors.

Both of these projects in the DoD Cancer Moonshot program were specifically developed to focus on ADSM with cancer (readiness), utilize molecular laboratories that are American owned and operated (U.S. DoD and DOE), keep all sensitive deidentified clinical and molecular data on U.S. government computers and servers for maximum data security and analysis (through the NCI), and benefit the nation through any and all discoveries that are made.

FY 2021 Plans:

FY 2021 Plans continue efforts as outlined in FY 2020.

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 10 MTFs and MEDCENS in the MHS. Active duty service members diagnosed with cancer at these 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 protocol 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.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
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 Automated Central Tumor Registry (ACTUR) 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 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 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-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 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. ***FY 2022 Plans:*** FY 2022 plans continue efforts as outlined in FY 2021. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Pricing adjustment for inflation.			
Accomplishments/Planned Programs Subtotals	18.566	18.640	18.724

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
479: *Framingham Longitudinal Study (USUHS)*	9.666	4.920	4.920	4.920	-	4.920	-	-	-	-	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 USU 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. 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 2020	FY 2021	FY 2022
Title: DoD Cancer Moonshot Program - DoD Framingham Longitudinal Study	4.920	4.920	4.920
Description: DoD Framingham is a novel project that is enabled by the blood serum specimens stored at the DoD Serum Repository 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 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			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022

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 = Bladder cancer; Framingham 4 = Kidney cancer; and Framinghams 5 through 8 subtypes will be determined by MCC and NCI experts in the coming months.

Both the APOLLO and Framingham projects in the DoD Cancer Moonshot program were specifically developed to focus on ADSM with cancer (readiness), utilize molecular laboratories that are American owned and operated (U.S. DoD and DOE), keep all sensitive de-identified clinical and molecular data on U.S. government computers and servers for maximum data security and analysis (through the NCI), and benefit the nation through any and all discoveries that are made.

FY 2021 Plans:

FY 2021 Plans continue efforts as outlined in FY 2020, including the following tasks:
Task 1: The Department of Defense (DoD) Joint Pathology Center’s (JPC) Automated Central Tumor Registry (ACTUR) will be queried for patients with identified cancer subject.
Task 2: JPC will send the list of approximately 150 identified cancer patients to the AFHSD 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, 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 2022 Plans:

FY 2022 plans continue efforts as outlined in FY 2021.

FY 2021 to FY 2022 Increase/Decrease Statement:

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
Funding remains the same.			
Accomplishments/Planned Programs Subtotals	4.920	4.920	4.920

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
499: *MHS Financial System Acquisition (DHA)*	35.580	15.373	1.971	6.011	-	6.011	-	-	-	-	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, enabling standardized processes, data collection, and reporting.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: MHS Financial System Acquisition	15.373	1.971	6.011
Description: The goal is to transition financial operations to a platform that allows for consistency across the Defense Health Agency, enabling standardized processes, data collection, and reporting. ***FY 2021 Plans:*** Deployment requirements for the Navy go down and shift towards the operation and maintenance. This program may increase in later years pending potential GFEBS deployment to AF and acceleration in existing acquisitions. ***FY 2022 Plans:*** Begin GFEB deployment to the Air Force. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Deployment requirements for the Navy go down and shift towards the operation and maintenance. This program may increase in later years pending potential GFEBS deployment to AF and acceleration in existing acquisitions.			
Accomplishments/Planned Programs Subtotals	15.373	1.971	6.011

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• BA 3: *PE 0807721 Replacement & Modernization*	22.611	0.000	0.000	-	0.000	0.000	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Acquisition Strategy is to be determined.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
381: *CoE - Integrative Cardiac Health Care (USUHS)*	2.811	3.118	1.680	1.744	-	1.744	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The USU Integrative Cardiac Health Program is a Center of Excellence whose mission is to:
1. To 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 precise strategies for early detection, monitoring and reduction of preclinical/clinical CV and related chronic disease risks for improved clinical outcomes.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Integrative Cardiac Health	3.118	1.680	1.744
Description: USU 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 2021 Plans:*** FY 2021 Plans continue efforts as outlined in FY 2020. - Complete/continue ongoing projects. - Initiate pivotal randomized clinical trial of 450 Active Duty Service Members for prevention of obesity and cardiovascular outcomes. - Two new registries focused on cardiogenetic care and sudden death in ADSM slated for the FY21. ***FY 2022 Plans:*** FY 2022 plans continue efforts as outlined in FY 2021. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Pricing adjustment for inflation.			
Accomplishments/Planned Programs Subtotals	3.118	1.680	1.744

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)*

D. Acquisition Strategy

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

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 504 / *WRAIR Vaccine Production Facility Research (Army)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
504: *WRAIR Vaccine Production Facility Research (Army)*	8.000	8.152	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The WRAIR Vaccine Pilot Bioproduction Facility (PBF) is the Department of Defense's only facility capable of producing good manufacturing practices (GMP) quality biologic products for use in early phase clinical trials. The mission of the WRAIR PBF is to support the development and licensure of vaccines and relevant biologics critical to the global health of our Warfighters serving domestically or abroad in compliance with US Food and Drug Administration (FDA) regulations. Funding supports a baseline level of preparedness for vaccine production and improved response-time in the setting of known and emerging infectious disease threats needing a preventive countermeasure while working with a collaborative network of partners. This project supports vaccine development efforts of strategic importance to the DoD, including Service medical research and development programs, those of other DoD organization such as the Defense Threat Reduction Agency and the Defense Advanced Research Projects Agency, and pandemic biopreparedness for emerging infectious disease threats in the Global Health Security Agenda.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: WRAIR Vaccine Production Facility	8.152	-	-
Description: The WRAIR Vaccine Pilot Bioproduction Facility (PBF) will focus on the manufacture of early phase clinical materials for vaccine production from varied platforms, such as live virus, conjugates, recombinant proteins, DNA, and monoclonal antibody approaches that: (a) expand collaborative partnerships for product development that meet DoD requirements; (b) open active intramural-based discovery efforts of new products for development; and (c) initiate and extend strategic partnerships with external collaborators (Government and industry) to develop/co-develop potential new biologic approaches to pandemic disease preparedness.			
Accomplishments/Planned Programs Subtotals	8.152	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
506: *Health Research for Improved Medical Readiness and Healthcare Delivery (USUHS)*	0.000	11.904	11.141	11.385	-	11.385	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The "Health Research for Improved Medical Readiness and Healthcare Delivery" program at USUHS is to answer 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 2020	FY 2021	FY 2022
Title: Health Research for Improved Medical Readiness and Healthcare Delivery	11.904	11.141	11.385

Description: The objective of Health Services Research is to build capacity to conduct health services research (HSR) within the MHS. 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 improving medical readiness and efficient, effective, quality and safe healthcare.

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 Joint Staff Surgeon's Office and the Combatant Commands Surgeons' Offices.

The Precision Medicine Initiative for Military Medical Education and Research's (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. PRIMER provides standardized genome profiling services, genomic data analysis, and genomic data storage under DoD security and privacy compliance policies, addressing 8 separate DoD requirements across the MHS. PRIMER performs clinical implementation research in the field of genomic medicine to inform policy and clinical practice guidelines for use of genomics in the MHS, while also providing education in the use of genomic medicine to health care providers at all levels of training.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
The military Women's Health research program mission is to develop and guide best practices for the clinical care of women in the military system, through medical research. This research program will identify priorities that utilize novel and well-defined methods in the areas of personalized medicine and population science and focuses on basic, clinical and translational research. Infectious Disease Clinical Research is 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. It also 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. ***FY 2021 Plans:*** Improve the efficacy of military medical engagements with partner nations in achieving military outcomes for global health. Improve readiness of the Join Force to conduct global health engagement activities in support of geographic combatant commands and national security objectives. Improve quality of tools and capabilities available to commanders for conducting international security cooperation and cooperative health security engagements. Enable single collection site of genomic data for DoD Precision Medicine studies to contribute towards population medicine innovation. Utilize supercomputing infrastructure to support clinical activities. Support research projects in the areas of reproductive health, pain, mental health, cardiovascular disease, cancer, human performance and readiness standards, nutrient and energy requirement for servicewomen. ***FY 2022 Plans:*** FY 2022 plans continue efforts as outlined in FY 2021. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Price adjusted for inflation.			
Accomplishments/Planned Programs Subtotals	11.904	11.141	11.385

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
507: *Brain Injury and Disease Prevention, Treatment and Research (USUHS)*	0.000	13.317	13.583	13.855	-	13.855	-	-	-	-	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 2020	FY 2021	FY 2022
Title: Brain Injury and Disease Prevention, Treatment and Research	13.317	13.583	13.855

Description: Brain Injury and Disease Prevention, Treatment and Research is focused upon identifying drugs that will interfere with pathological tau prion formation in the brains of service members who are at risk for developing CTE and other neurodegenerative diseases following repeated TBI. 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 which are associated with significant persistent behavioral/neurologic manifestations. Currently, there are no validated means for diagnosing these problems in living patients or drugs to effectively treat them. The overall mission of this program is to develop drug candidates that will effectively block the formation of brain 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, 319,513 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. Part of the progress in this regard is the development of a transgenic rat that overexpresses human tau with the P301S mutation. In addition, new highly sensitive techniques to identify the presence of tau prions in brain samples have been developed.

FY 2021 Plans:

While the COVID-19 pandemic has constrained our usual pace of research, we hope to continue to screen an additional 500,000 chemical compounds for potential effects of tau prion formation. Compounds identified with such properties will undergo medicinal chemistry manipulation to enhance biologic efficacy. Newly developed highly sensitive tau prion assay techniques will be used on human specimens and animal models to identify the presence and time-course of tau prion involvement of the brain. Activities towards obtaining fresh frozen brain specimens from Service Members who developed CTE will be maximized in order to better characterize the nature of tau prions associated with this condition.

FY 2022 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
FY 2022 plans continue efforts as outlined in FY 2021. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Price adjustment for inflation.			
Accomplishments/Planned Programs Subtotals	13.317	13.583	13.855

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
508: *Psychological Health and Resilience (USUHS)*	0.000	7.000	7.140	7.283	-	7.283	-	-	-	-	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 2020	FY 2021	FY 2022
Title: Psychological Health and Resilience	7.000	7.140	7.283
Description: STARRS-LS, the longitudinal successor to the groundbreaking Army STARRS research conducted from 2009 to 2015, is the largest study of military suicide ever undertaken, and in addition has yielded a wealth of information about a variety of other health issues relevant to the military. STARRS-LS seeks to extend the original effort by continuing to follow the original participants, expanding the Historical Administrative Data Study and using Big Data techniques to develop knowledge from it, and by combining survey and health outcome data with genetic analyses from samples provided by research participants.			
FY 2021 Plans: FY 2021 Plans continue efforts as outlined in FY 2020. Specific goals include: 1. Collect the next wave (wave 3) of follow-up data from the STARRS-LS cohort of more than 14,500 Soldiers, including those who have left the Army and transitioned to civilian life. 2. Continue conducting state-of-the art analyses of the Army STARRS and STARRS-LS data and producing actionable findings for the Army and DoD. 3. Continue adapting the data collection and data analyses to meet new and emerging issues identified by the Army and DoD.			
FY 2022 Plans: FY 2022 plans continue efforts as outlined in FY 2021.			
FY 2021 to FY 2022 Increase/Decrease Statement: Price adjustment for inflation.			
Accomplishments/Planned Programs Subtotals	7.000	7.140	7.283

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
509: *Innovative Technologies for Improved Medical Diagnoses, Rehabilitation and Warfighter Readiness (USUHS)*	0.000	19.323	13.710	14.104	-	14.104	-	-	-	-	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 2020	FY 2021	FY 2022
Title: Innovative Technologies for Improved Medical Diagnoses, Rehabilitation and Warfighter Readiness	19.323	13.710	14.104

Description: The TTW program aims to support highly collaborative advanced technology projects by bringing together industry, academia and civilian medical centers including minority serving institutions with experience in solving defense and civilian health problems. Supported projects will focus on the 3 principal medical areas for defense health (Combat Casualty Care, Military Operational Medicine, and Clinical and Rehabilitative Medicine) with an emphasis on direct relevance to identified military needs, translational potential and clear strategy for product commercialization with a low to medium risk – high reward payoff. Additionally, for USU, the TTW program will cultivate, establish and leverage partnerships between USU faculty/investigators and industry, academia and civilian medical centers including minority serving institutions. Results from the TTW program will increase DoD’s workforce capability, DoD’s access to leading edge technologies and leverage industry knowledge and funded research data for warfighter medical needs.

Surgical Critical Care (SC2i) will enroll critically ill patients, leveraging deep medical and –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.

Rehabilitation Sciences Research supports clinical and translational research efforts dedicated to enhancing the rehabilitative care of the wounded warrior, particularly those with orthopeadic 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

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
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. ***FY 2021 Plans:*** Support the advancement of medical technologies such as 1) wearable devices, 2) operational injuries, 3) rehabilitation, 4) precision medicine, and 5) rapid treatment and diagnostics at point of injury. In support of surgical critical care, develop validate, and/or deploy eleven (11) predictive algorithms for conditions associated with high mortality and morbidity. Support robust medical education and training to ensure the battlefield surgeons of tomorrow are appropriately trained in the use of clinical and biomarker-based CDSTs. Define the optimal rehabilitation strategies and prosthetic selection, fitting and training for wounded warriors with osseointegration. Examine the clinical efficacy of virtual and augmented reality applications to enhance rehabilitation of individuals with extremity dysfunction and acquired brain injury. ***FY 2022 Plans:*** FY 2022 plans continue efforts as outlined in FY 2021. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Price adjustments for inflation.			
Accomplishments/Planned Programs Subtotals	19.323	13.710	14.104

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
373: *GDF - Medical Technology Development*	1,130.117	78.868	5.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

(+) The sum of all Prior Years is $5.000 million less than the represented total due to several projects ending

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 six Joint Program Committees: 1- Medical Simulation and Information Sciences research aims to coordinate health information technology, simulation, and training research across the Military Health System. Technology development efforts are directed toward the medical simulation task. 2- Military Infectious Diseases research is developing protection and treatment products for military relevant infectious diseases. 3- 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 fitness of Service members. 4- 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. 5- Radiation Health Effects research focuses on technology development of acute radiation exposure medical countermeasures development. 6- Clinical and Rehabilitative Medicine research is developing knowledge and materiel products to reconstruct, rehabilitate, and provide care for injured Service members. Technology development efforts are directed against tasks in neuromusculoskeletal rehabilitation, pain management, regenerative medicine, and sensory systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: GDF – Medical Technology Development	78.868	5.000	-
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 2021 Plans:*** Congressional Add-Restoral ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Congressional Add-Restoral			
Accomplishments/Planned Programs Subtotals	78.868	5.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)

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 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
373A: *GDF - MTD (Combat Casualty Care)*	0.000	0.000	11.168	15.736	-	15.736	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Medical Technology Development provides funds for the development of promising candidate solutions that are selected for initial safety and effectiveness testing in animal studies and/or human clinical trials regulated by the U. S. Food and Drug Administration prior to licensing for human use. Joint Battlefield Healthcare research is optimizing survival, recovery and rehabilitation in injured Service members across the spectrum of care from point of injury through enroute care and facilities care.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Joint Battlefield Healthcare (Formerly Combat Casualty Care)	-	11.168	15.736
Description: Joint Battlefield Healthcare medical technology development will continue to focus on investigating new diagnostic tools and treatments for prolonged battlefield hemorrhage control, how to best diagnose and treat severe neurotrauma from the point of injury to evacuation/enroute care and long term hospital and rehabilitative care, and research into optimizing the system wide movement of patients to different levels of care to ensure positive clinical outcomes. ***FY 2021 Plans:*** Joint Battlefield Healthcare medical technology development will continue to focus on investigating new diagnostic tools and treatments for prolonged battlefield hemorrhage control, how to best diagnose and treat severe neurotrauma from the point of injury to evacuation/enroute care and long term hospital and rehabilitative care, and research into optimizing the system wide movement of patients to different levels of care to ensure positive clinical outcomes. ***FY 2022 Plans:*** Joint Battlefield Healthcare medical technology development will focus on evaluating diagnostic tools and treatments designed for deployment during multi-domain operations, resource-limited conditions and prolonged care. Test effective critical care processes and technologies for severe casualties injured during large scale combat operations. These technologies include devices to treat tissue damage caused when blood supply returns to tissue after a period of oxygen deprivation, technologies for advanced hemorrhage control, novel blood products, technologies for autonomous vascular access, battlefield burn diagnostics and management, and advanced en route casualty treatment and management. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Increased funding for science and technology activities in patient movement, prolonged field care and enroute care to support medical readiness and return to duty requirements in future operational environments.			
Accomplishments/Planned Programs Subtotals	-	11.168	15.736

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
373B: *GDF - MTD (Military Operational Medicine)*	0.000	0.000	23.255	19.046	-	19.046	-	-	-	-	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 countermeasures against operational stressors, or that prevent musculoskeletal, neurosensory, and psychological injuries during training and from point of injury through role of care four.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Military Health and Recovery (Formerly Military Operational Medicine)	-	23.255	19.046
Description: Efforts 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 musculoskeletal injury; fatigue, cognitive health and performance; human operator health and performance in complex systems; operational systems toxicology for environmental health hazards; protection and performance sustainment in extreme environments; optimization of psychological health and resilience; and diagnosis & treatment of mental health disorders. ***FY 2021 Plans:*** Efforts 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 musculoskeletal injury; fatigue, cognitive health and performance; human operator health and performance in complex systems; operational systems toxicology for environmental health hazards; protection and performance sustainment in extreme environments; optimization of psychological health and resilience; and diagnosis & treatment of mental health disorders. ***FY 2022 Plans:*** Efforts will continue to focus on: injury prevention and recovery related to musculoskeletal injury; fatigue, cognitive health and performance; human operator health and performance in complex systems; operational systems toxicology for environmental health hazards; protection and performance sustainment in extreme environments; optimization of psychological health and resilience; and diagnosis & treatment of mental health disorders. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Decrease due to shifting requirements.			
Accomplishments/Planned Programs Subtotals	-	23.255	19.046

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
373C: *GDF - MTD (Medical Simulation & Training/Health Informatics)*	0.000	0.000	12.613	13.044	-	13.044	-	-	-	-	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 2020	FY 2021	FY 2022
Title: Medical Simulation Technologies (Formerly Medical Simulation Technologies & Training/Health Informatics)	-	12.613	13.044

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 2021 Plans:

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;

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
technologies that simulate combat scenarios to provide realistic environments; and, technologies that simulate patient movement through the continuum of care. ***FY 2022 Plans:*** Conduct studies, investigations, and non-system specific technology effort focus on prototyping tissue models, technologies that simulate medical condition progress over time, personalized 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, including the brain and all organ systems of the body; 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 -including those anticipated from future weaponry, 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 2021 to FY 2022 Increase/Decrease Statement:*** Increase due to inflation			
Accomplishments/Planned Programs Subtotals	-	12.613	13.044

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
373D: *GDF - MTD (Clinical and Rehabilitation Medicine)*	0.000	0.000	13.040	14.980	-	14.980	-	-	-	-	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 2020	FY 2021	FY 2022
Title: Clinical and Rehabilitation Medicine	-	13.040	14.980
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 2021 Plans:*** 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 2022 Plans:*** Efforts will continue to focus on clinical and rehabilitation medicine to support clinical trials in neuromusculoskeletal injuries to provide products and information solutions for diagnosis, treatment, and rehabilitation outcomes for Service-related injuries; the development of 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 2021 to FY 2022 Increase/Decrease Statement:*** Increase supports planned expansion of Artificial Intelligence (AI) application effort for neuromusculoskeletal injury prevention and treatment integration.			
Accomplishments/Planned Programs Subtotals	-	13.040	14.980

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
373E: *GDF - MTD (Military Infectious Disease)*	0.000	0.000	6.409	6.630	-	6.630	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Military infectious disease efforts continue to focus on the development of protection and treatment products for military relevant infectious diseases.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Military Infectious Disease	-	6.409	6.630
Description: Military infectious disease activities to support efforts (including clinical) to develop innovative therapeutics and delivery technologies for combat wound infections. These efforts include Combating Antibiotic Resistant bacteria as well as accelerating promising drug and vaccine solutions to emerging infectious diseases (e.g. chikungunya, MERS, and Zika. ***FY 2021 Plans:*** Military infectious disease activities to support efforts (including clinical) to develop innovative therapeutics and delivery technologies for combat wound infections. These efforts include Combating Antibiotic Resistant bacteria as well as accelerating promising drug and vaccine solutions to emerging infectious diseases (e.g. chikungunya, MERS, and Zika. ***FY 2022 Plans:*** Test lead drug candidates in healthy volunteers to determine drug pharmacology, safety, and effectiveness against emerging infectious diseases (EID). Transition the lead EID drug with improved safety, effectiveness and less frequent dosing to advanced development. Perform small studies in healthy volunteers to test safety, effectiveness and immunogenicity of immunoprophylactics (to prevent disease by immunity) against EID with down-selection and transition of the immunoprophylactics to advanced development. Manufacture EID vaccine candidate for clinical testing. Perform clinical testing of EID vaccine candidates for safety and efficacy in humans. Manufacture dengue vaccine candidate for clinical testing. Perform clinical testing of dengue vaccine candidates for safety and efficacy in humans. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Funding change reflects planned lifecycle of this effort.			
Accomplishments/Planned Programs Subtotals	-	6.409	6.630

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)*

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
373F: *GDF - MTD (Radiological Health Effects)*	0.000	0.000	0.501	0.518	-	0.518	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Research and development in countermeasures for acute radiation exposure leading toward identification of post-exposure treatment of radiation injury. Developing an FDA-approved countermeasure for both pre-exposure prophylaxes and post-exposure treatments of acute radiation syndrome (ARS) will help improve health outcomes for radiation exposure injuries.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Radiological Health Effects	-	0.501	0.518
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 2021 Plans:*** 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 2022 Plans:*** Continue research toward the development of Food and Drug Administration (FDA) approved drugs, biologicals, and diagnostics (e.g. biodosimetry) for acute radiation exposures to increase survival and decrease incapacity. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Funding change reflects planned lifecycle of this effort.			
Accomplishments/Planned Programs Subtotals	-	0.501	0.518

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
373G: *GDF - MTD (Military Medical Photonics)*	0.000	0.000	10.000	10.200	-	10.200	-	-	-	-	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 military medical needs 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 development and utilization of optical science and technology for diagnostic, imaging, and therapeutic solutions in support of combat casualty care.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Military Medical Photonics	-	10.000	10.200

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 2021 Plans:

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 2022 Plans:

Conduct 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 capabilites for use in the far fotrward environment that will cognitiveley and physicially 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

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
point of injury, miniature and rugged imaging capabilites, and novel therapeutiics for wound repair, vascular rupture diagnosis and repair. Photonics-based diagnostics will be integrated across the contiuum of care, including early detection of airway inhalation injury and implantable biomarker sensors and Photobiomodulation to affect cognitive function. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Funding change reflects planned lifecycle of this effort.			
Accomplishments/Planned Programs Subtotals	-	10.000	10.200

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0603115DHA / *Medical Technology Development*	Project (Number/Name) 519 / *CARES Act - H.R. 748, (P.L. 116-136)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
519: *CARES Act - H.R. 748, (P.L. 116-136)*	-	315.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

Note

Congressional Add: CARES Act - H.R. 748, (P.L. 116-136)

A. Mission Description and Budget Item Justification

CARES Act - H.R. 748, (P.L. 116-136)

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021
Congressional Add: CARES Act - H.R. 748, (P.L. 116-136)	315.000	-
FY 2020 Accomplishments: CARES Act - H.R. 748, (P.L. 116-136)		
Congressional Adds Subtotals	315.000	-

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 2022 Defense Health Agency											Date: May 2021	
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 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	1,423.290	1,174.955	147.331	142.252	-	142.252	-	-	-	-	Continuing	Continuing
400Z: *CSI - Congressional Special Interests*	401.343	1,036.900	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
434A: *Air & Space Medical Readiness Advanced Concept Development (AF)*	22.617	4.000	4.080	4.162	-	4.162	-	-	-	-	Continuing	Continuing
374: *GDF - Medical Products Support and Advanced Concept Development*	999.330	124.055	128.251	0.000	-	0.000	-	-	-	-	Continuing	Continuing
374A: *GDF - Medical Simulation and Training*	-	0.000	0.000	18.490	-	18.490	-	-	-	-	Continuing	Continuing
374B: *GDF - Medical Readiness*	-	-	-	48.816	-	48.816	-	-	-	-	Continuing	Continuing
374C: *GDF - Medical Combat Support*	-	0.000	0.000	49.661	-	49.661	-	-	-	-	Continuing	Continuing
374D: *GDF - Restoration & Healthcare Systems*	-	0.000	0.000	21.123	-	21.123	-	-	-	-	Continuing	Continuing
520: *CARES Act - H.R. 748, (P.L. 116-136)*	-	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
464: *CSI - Congressional Special Interests*	-	0.000	15.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
441: *CSI- Joint Warfighter Medical Research*	-	10.000	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 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 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency	Date: May 2021
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*

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.

Program development and execution is coordinated with all of the Military Services and 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 medical materiel development efforts. 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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	138.055	132.331	142.252	-	142.252
Current President's Budget	1,174.955	147.331	142.252	-	142.252
Total Adjustments	1,036.900	15.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	1,036.900	15.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2020	FY 2021
Project: 400Z: *CSI - Congressional Special Interests*		
Congressional Add: *441A - Joint Warfighter Medical Research Program*	1,036.900	-
Congressional Add Subtotals for Project: 400Z	1,036.900	-
Congressional Add Totals for all Projects	1,036.900	-

Change Summary Explanation

Project 520 was created for CARE Act funding.

$936.900M of CARE Act DHP O&M funding was reprogrammed into Project 520 for RDTE purposes.
$35.741M of 6.3 RDTE funding was reprogrammed into Project 520 for RDTE CARE ACT purposes.
$64.042M of 6.3 RDTE funding was reprogrammed into Project 464 for RDTE CARE ACT purposes.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
400Z: *CSI - Congressional Special Interests*	401.343	1,036.900	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

(+) The sum of all Prior Years is $634.657 million less than the represented total due to several projects ending

A. Mission Description and Budget Item Justification

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)	FY 2020	FY 2021
Congressional Add: 441A - Joint Warfighter Medical Research Program	1,036.900	-
FY 2020 Accomplishments: CSI Add		
Congressional Adds Subtotals	1,036.900	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
434A: *Air & Space Medical Readiness Advanced Concept Development (AF)*	22.617	4.000	4.080	4.162	-	4.162	-	-	-	-	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 development, fielding, and sustainment. This project enables the fielding of advanced medical capabilities (Technology Readiness Level-TRL 5-7) 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 end-users.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Air & Space Medical Readiness Advanced Concept Development (AF)	4.000	4.080	4.162
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 Engineering and Manufacturing Development (EMD) for prototypes and production representative units that address AF capability gaps in aerospace and operational medicine and medical readiness.			
FY 2021 Plans: Continue materiel developments of the: a) Trauma-Specific Vascular Shunt device for restoring blood flow to extremities post trauma during en route care; b) Biomeme Pathogen Surveillance System, a far-forward hand-held diagnostics and detection capability for AF relevant pathogens; c) Spinal Injury Transport – Device (SIT-D), a man-portable immobilization device for use in the en route care system; and d) the Automated Vision Tester (AVT), a state-of-the art vision tester for measurable and meaningful specs for Airman vision standards. Begin assessment and development of medical materiel efforts including, but not limited to, autonomous closed-loop control of oxygen and ventilation intervention during en route patient care and on-demand sterile water for injection and Intravenous (IV) solutions in deployed Expeditionary Medical Support System (EMEDS). Transition to the AF Warfighter the following capabilities: Flashing Indicators of Swimmer's Health (FISH) and the Patient Loading System (PLS).			
FY 2022 Plans: FY22 plans continue efforts as outlined in FY 2021.			
FY 2021 to FY 2022 Increase/Decrease Statement:			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
Funding increase due to inflation.			
Accomplishments/Planned Programs Subtotals	4.000	4.080	4.162

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Accomplishments: Made significant advancements towards the materiel development of the Patient Loading System (PLS), an en route care ramp system for on- / off-boarding with high deck aircraft. Additionally, the Field Intravenous Expeditionary System yielded two prototypes that are undergoing early operational assessments prior to entry into Phase III / EMD and Design Freeze Optimization. Lastly, the Automated Vision Tester (AVT) and the Flashing Indicator of Swimmers' Health (FISH) projects have either reached or are nearing prototype design and are set to begin EMD prior to the close of CY20.

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-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
374: *GDF - Medical Products Support and Advanced Concept Development*	999.330	124.055	128.251	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 2020	FY 2021	FY 2022
Title: GDF – Medical Product Support and Advanced Concept Development	124.055	128.251	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 2021 Plans: Medical Simulation and Training: 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 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 maximize the training simulations, manikins and healthcare across the Department of Defense.			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
Medical Readiness: Programs will focus on prevention of illness and injury along with optimization of human performance. The Pharmaceutical Intervention for Noise-Induced Hearing Loss-Acute Exposure Treatment program will continue development of the Capability Development Document with Key Performance Parameters and continue progress with an on-going clinical trial with a promising drug treatment candidate. The Broad Spectrum Snake Bite antidote initiates clinical trials to elevate safety and effectiveness of the capability. Medical Combat Support: Programs will focus on operational support. The Hemorrhage Detection program will continue development of the Capability Development Document with Key Performance Parameters along with a laboratory-based technology analysis study to inform ability for the capability to be deployed to Roles 1-3. The Traumatic Brain Injury (TBI) Assessment and Diagnosis program will continue to integrate information from end user feedback, field evaluations in the deployed environment, and market research to identify a solution to aid the medical provider in the ability to triage and monitor a moderate/severe TBI. 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. The Joint Medical Exchange and Documentation of Information for Combat Casualty Care program will continue to conduct prototype demonstrations in operational and simulated field environments. Initiate K-9 blood product and Multi Channel Infusion Pump capability efforts. Restoration and Healthcare Systems: Programs will focus on treatments to be used to restore form and function to warfighters as well as improve healthcare. The Traumatic Brain Injury-Drug Treatment program will continue to evaluate market research to identify possible TBI drug candidates that are ready for focused Phase II clinical trials and conduct clinical trial planning. The Post Traumatic Stress Disorder-Drug Treatment program will continue to explore options for simultaneous testing of multiple drugs using an innovative testing design. ***FY 2022 Plans:*** Starting in FY 2022, funding from Project 374 was realigned to Projects 374A, 374B, 374C, and 374D. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Starting in FY 2022, funding from Project 374 was realigned to Projects 374A, 374B, 374C, and 374D.			
Accomplishments/Planned Programs Subtotals	124.055	128.251	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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*

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 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
374A: *GDF - Medical Simulation and Training*	-	0.000	0.000	18.490	-	18.490	-	-	-	-	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 2020	FY 2021	FY 2022
Title: GDF - Medical Simulation and Training	-	-	18.490
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 2022 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 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 maximize the training simulations, manikins and healthcare across the Department of Defense.			
FY 2021 to FY 2022 Increase/Decrease Statement: Funding for Project 374A was realigned from Projects 374			
Accomplishments/Planned Programs Subtotals	-	-	18.490

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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*

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 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
374B: *GDF - Medical Readiness*	-	-	-	48.816	-	48.816	-	-	-	-	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 2020	FY 2021	FY 2022
Title: GDF - Medical Readiness	-	-	48.816
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 2022 Plans:*** Programs will focus on prevention of illness and injury along with optimization of human performance. The Pharmaceutical Intervention for Noise-Induced Hearing Loss-Acute Exposure Treatment program will continue development of the Capability Development Document with Key Performance Parameters and continue progress with an on-going clinical trial with a promising drug treatment candidate. Continue Broad Spectrum Snake Bite antidote clinical trials to elevate safety and effectiveness of the capability. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Funding for Project 374B was realigned from Projects 374.			
Accomplishments/Planned Programs Subtotals	-	-	48.816

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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*

C. Other Program Funding Summary ($ in Millions)

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 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
374C: *GDF - Medical Combat Support*	-	0.000	0.000	49.661	-	49.661	-	-	-	-	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 2020	FY 2021	FY 2022
Title: GDF - Medical Combat Support	-	-	49.661
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 2022 Plans: Programs will focus on operational support. The Hemorrhage Detection program will continue development of the Capability Development Document with Key Performance Parameters along with a laboratory-based technology analysis study to inform ability for the capability to be deployed to Roles 1-3. The Traumatic Brain Injury (TBI) Assessment and Diagnosis program will continue to integrate information from end user feedback, field evaluations in the deployed environment, and market research to identify a solution to aid the medical provider in the ability to triage and monitor a moderate/severe TBI. 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. The Joint Medical Exchange and Documentation of Information for Combat Casualty Care program will continue to conduct prototype demonstrations in operational and simulated field environments. Also, continue the K-9 blood product and Multi Channel Infusion Pump capability efforts.			
FY 2021 to FY 2022 Increase/Decrease Statement:			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
Funding for Project 374C was realigned from Projects 374.			
Accomplishments/Planned Programs Subtotals	-	-	49.661

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 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
374D: *GDF - Restoration & Healthcare Systems*	-	0.000	0.000	21.123	-	21.123	-	-	-	-	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 2020	FY 2021	FY 2022
Title: GDF - Restoration & Healthcare Systems	-	-	21.123
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 2022 Plans:*** Programs will focus on treatments to be used to restore form and function to warfighters as well as improve healthcare. The Traumatic Brain Injury-Drug Treatment program will continue to evaluate market research to identify possible TBI drug candidates that are ready for focused Phase II clinical trials and conduct clinical trial planning. The Post Traumatic Stress Disorder-Drug Treatment program will continue to explore options for simultaneous testing of multiple drugs using an innovative testing design. Continued clinical trials for effectiveness of bacteriophage treatment for bacteria infections. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Funding for Project 374D was realigned from Projects 374. This Project is not a new start.			
Accomplishments/Planned Programs Subtotals	-	-	21.123

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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*

C. Other Program Funding Summary ($ in Millions)

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 2022 Defense Health Agency											Date: May 2021	
Appropriation/Budget Activity 0130 / 2					R-1 Program Element (Number/Name) PE 0604110DHA / *Medical Products Support and Advanced Concept Development*				Project (Number/Name) 520 / *CARES Act - H.R. 748, (P.L. 116-136)*			
COST ($ in Millions)	**Prior Years**	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
520: *CARES Act - H.R. 748, (P.L. 116-136)*	-	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

Note

Congressional Add: CARES Act - H.R. 748, (P.L. 116-136)

A. Mission Description and Budget Item Justification

CARES Act - H.R. 748, (P.L. 116-136)

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 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	Project (Number/Name) 464 / *CSI - Congressional Special Interests*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
464: *CSI - Congressional Special Interests*	-	0.000	15.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

CARES Act - H.R. 748, (P.L. 116-136)

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: CARES Act - H.R. 748, (P.L. 116-136)	-	15.000	-
Description: CARES Act - H.R. 748, (P.L. 116-136) Reprogramming in support of COVID vaccine capabilities and wearables. ***FY 2021 Plans:*** Reprogramming in support of COVID vaccine capabilities and wearables. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Increase due to inflation.			
Accomplishments/Planned Programs Subtotals	-	15.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0604110DHA / *Medical Products Support and Advanced Concept Development*	Project (Number/Name) 441 / *CSI- Joint Warfighter Medical Research*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
441: *CSI- Joint Warfighter Medical Research*	-	10.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

Congressional Add In

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: CSI- Joint Warfighter Medical Research ***Description:*** Congressional Add In	10.000	-	-
Accomplishments/Planned Programs Subtotals	10.000	-	-

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 2022 Defense Health Agency											Date: May 2021	
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 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	80.625	23.780	16.344	10.866	-	10.866	0.000	0.000	0.000	0.000	Continuing	Continuing
239H: *IM/IT Test Bed (Air Force) at DHA*	6.498	2.740	2.795	0.723	-	0.723	-	-	-	-	Continuing	Continuing
482A: *E-Commerce (DHA)*	20.808	4.284	4.370	0.959	-	0.959	-	-	-	-	Continuing	Continuing
480D: *Defense Occupational and Environmental Health Readiness System - Industrial Hygiene (DOEHRS-IH) (Tri-Service)*	25.129	3.941	8.714	8.701	-	8.701	-	-	-	-	Continuing	Continuing
423C: *Defense Center of Excellence (T2T/PBH TERM) (DHA)*	4.032	1.450	0.465	0.483	-	0.483	-	-	-	-	Continuing	Continuing
283C: *Medical Operational Data System (MODS) (Army)*	13.631	2.759	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
283H: *Psychological and Behavioral Health - Tools for Evaluation, Risk, and Management (PBH-TERM)*	0.279	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
283L: *Pharmacovigilance Defense Application System*	1.698	0.350	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
283P: *Mobile HealthCare Environment (MHCE)*	1.383	0.473	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
480R: *Joint Disability Evaluation System IT (DHA)*	1.636	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
485: *Legacy Data Repository (DHA-C)*	5.531	5.856	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
505: *Military Health System Virtual Health Program (MHS VHP)*	0.000	1.927	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency	Date: May 2021
Appropriation/Budget Activity 0130: *Defense Health Program I* BA 2: *RDT&E*	**R-1 Program Element (Number/Name)** PE 0605013DHA *I Information Technology Development*

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 using RDT&E funding include: Defense Occupational and Environmental Health Readiness System – Industrial Hygiene (DOEHRS-IH), Legacy Data Repository (LDR), and Defense Center of Excellence (Telehealth and Technology Toolkit (T2T)).

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 using RDT&E funding include: Defense Occupational and Environmental Health Readiness System – Industrial Hygiene (DOEHRS-IH), Legacy Data Repository (LDR), and Defense Center of Excellence (Telehealth and Technology Toolkit (T2T)).

The DHP RDT&E appropriation includes the following DHA initiatives: MHS Virtual Health Program (MHS VHP) and 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 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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	23.780	16.344	10.866	-	10.866
Current President's Budget	23.780	16.344	10.866	-	10.866
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	0.000	-			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
239H: *IM/IT Test Bed (Air Force) at DHA*	6.498	2.740	2.795	0.723	-	0.723	-	-	-	-	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 2020	FY 2021	FY 2022
Title: Operational Testing Service	2.740	2.795	0.723
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 2021 Plans:*** As in prior years, DHA will transfer funding to AF Medical IT during year of execution. AF will continue to test the DHMSM Electronic Health Record, JOMIS, Legacy TMIP, DMIX and HAIMS. Multi-Service Operational Test and Evaluation(s) will be conducted for the DHMSM Fixed Facility sites and the JOMIS Operational Medicine locations. Plans are to continue capability development & fielding efforts for half a dozen other ACAT III programs, initiate the Risk Management Framework reaccreditation for AF SG5T VPN for virtualization of IT Test Bed, and participate in at least half a dozen AF SG HPTs and requirement reviews, similar to FY18. ***FY 2022 Plans:*** Will continue capability development & fielding efforts for half a dozen other ACAT III programs, initiate the Risk Management Framework reaccreditation for AF SG5T VPN for virtualization of IT Test Bed, and participate in at least half a dozen AF SG HPTs and requirement reviews ***FY 2021 to FY 2022 Increase/Decrease Statement:***			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Decrease due to realignment of funding from RDT&E to O&M based on transitioning requirements			
Accomplishments/Planned Programs Subtotals	2.740	2.795	0.723

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 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
482A: *E-Commerce (DHA)*	20.808	4.284	4.370	0.959	-	0.959	-	-	-	-	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 2020	FY 2021	FY 2022
Title: E-Commerce (DHA)	4.284	4.370	0.959
Description: The DHP, RDT&E appropriation includes the following TMA initiatives: Electronic Commerce System(E-Commerce): This system was developed for centralized collection, integration, and reporting of accurate purchased care contracting and financial data. It provides an integrated set of data reports from multiple data sources to management, as well as tools to control the end-to-end program change management process. E-Commerce replaces multiple legacy systems. E-Commerce consists of several major subsystems including: CM subsystem utilizing Prism software to support contract action development and documentation; the RM subsystem utilizing Oracle Federal Financials and TED interface software to support the budgeting, accounting, case recoupment, and disbursement processes; the document management subsystem utilizing Documentum software to provide electronic storage, management, and retrieval of contract files; Management Tracking and Reporting subsystem utilizing custom software to provide reports to assist in the management and tracking of changes to the managed care contracts as well as current and out year liabilities; the Purchased Care Web site that provides up-to-date financial information for both TMA and the Services concerning the military treatment facilities' (MTFs') expenditures for MTF enrollee purchased care and supplemental care. E-Commerce includes 5 major subsystems and over 60 servers supporting development, test, and production. The system will be utilized by several hundred users in more than 7 different organizations. Project			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
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 2021 Plans:*** Plans include more modernization to healthcare financial processing, contracts, and reporting as well as adapting to health care policy and guidance ***FY 2022 Plans:*** Will continue to modernize the Electronic Commerce System for contracts, and reporting as well as adapting to health care policy and guidance. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Realigned funding to DHP O&M as parts of the system transition to sustainment			
Accomplishments/Planned Programs Subtotals	4.284	4.370	0.959

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• BA-1, 0807752HP: *Miscellaneous Support Activities*	0.132	0.132	0.135	-	0.135	0.138	-	-	-	Continuing	Continuing
• BA-3, 0807721HP: *Replacement/Modernization*	0.561	0.571	0.583	-	0.583	0.595	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
480D: *Defense Occupational and Environmental Health Readiness System - Industrial Hygiene (DOEHRS-IH) (Tri-Service)*	25.129	3.941	8.714	8.701	-	8.701	-	-	-	-	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 MemberÂ´s Longitudinal Exposure Record. DOEHRS-IH will describe the exposure assessment, identify similar exposure groups, establish a longitudinal exposure record baseline to facilitate post-deployment follow-up, and provide information to enable exposure-based medical surveillance and risk reduction.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Defense Occupational and Environmental Health Readiness System - Industrial Hygiene (DOEHRS-IH) (Tri-Service)	3.941	8.714	8.701
Description: Configure, enhance, and interface DOEHRS-IH modules. ***FY 2021 Plans:*** Developing software 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 2022 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 2021 to FY 2022 Increase/Decrease Statement:***			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
Funding decreased based on requirements for FY 2022.			
Accomplishments/Planned Programs Subtotals	3.941	8.714	8.701

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 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
423C: *Defense Center of Excellence (T2T/PBH TERM) (DHA)*	4.032	1.450	0.465	0.483	-	0.483	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE) provides the Military Health System with current and emerging psychological health and traumatic brain injury clinical and educational information. DCOE identifies gaps and prioritize needs in psychological health and TBI research, and then translate that research into clinical practice to improve patient outcomes.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Defense Center of Excellence (DHA) T2T and PBH TERM	1.450	0.465	0.483

Description: DCoE programs and products are developed and implemented to drive innovation across the continuum of care by identifying treatment options and other clinical and research methods that deliver superior healthcare outcomes. Products range from tools customized for healthcare providers to electronic resources such as online games and mobile apps for Service Members and their Families.
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.

Psychological and Behavioral Health – Tools for Evaluation, Risk and Management (PBH-TERM) is a web-based psychological and behavioral health (BH) information technology application which supports evidence-based, standardized and integrated BH initiatives and program evaluation.

FY 2021 Plans:
Support for web services development software.

FY 2022 Plans:
Will continue support for web services development software

FY 2021 to FY 2022 Increase/Decrease Statement:

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Increase between FY21 to FY22 is due to inflation			
Accomplishments/Planned Programs Subtotals	1.450	0.465	0.483

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 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013DHA / *Information Technology Development*	Project (Number/Name) 283C / *Medical Operational Data System (MODS) (Army)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
283C: *Medical Operational Data System (MODS) (Army)*	13.631	2.759	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Army Medical Command received PE 0605013 funding for the Medical Operational Data System (MODS) to deploy modernized data visualization capabilities to enhance Army Unit and Individual Medical Readiness Reporting. MODS provides Army leadership with a responsive and reliable human resource and readiness information management data system for all categories of military and civilian medical and support personnel. MODS provide Tri-Service support through applications such as Electronic Profile, Behavioral Health, and Medical Education.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Medical Operational Data System (MODS)	2.759	-	-
Description: Information management system to provide responsive and reliable human resource and medical readiness data for all categories of military and civilian medical and support personnel.			
Accomplishments/Planned Programs Subtotals	2.759	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• BA-1, 0807781HP: *Non-Central Information Management/ Information Technology*	13.878	0.000	0.000	-	0.000	0.000	-	-	-	Continuing	Continuing
• BA-3, 0807721HP: *Replacement/Modernization*	0.200	0.000	0.000	-	0.000	0.000	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Select the business, technical, and contract actions that will minimize cost, reduce program risk, and remain within schedule while meeting program objectives.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013DHA / *Information Technology Development*	Project (Number/Name) 283H / *Psychological and Behavioral Health - Tools for Evaluation, Risk, and Management (PBH-TERM)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
283H: *Psychological and Behavioral Health - Tools for Evaluation, Risk, and Management (PBH-TERM)*	0.279	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The US Army Medical Command (MEDCOM) and Defense Centers of Excellence (DCoE) have partnered to develop this information technology project for joint Service level support. The PBH-TERM platform addresses two congressionally mandated initiatives including the behavioral health management within the Warrior Transition Command (GH risk Management module/BHRM and within primary care settings (FIRST-STEPS). Further development efforts allow expansion of capabilities to deliver ongoing user support and training via web-based modules within PBH-TERM and will provide costs casings in terms of staffing requirements, conferencing and reporting.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Psychological and Behavioral Health – Tools for Evaluation, Risk, and Management (PBH-TERM) ***Description:*** PBH-TERM is a web-based psychological and Behavioral Health (BH) information technology platform, which supports evidence-based, standardized and integrated BH risk and case management initiatives as well as program evaluation for the Warrior Transition Command and Patient/Soldier-Centered BH (PCBH) care in primary care settings.	0.000	-	-
Accomplishments/Planned Programs Subtotals	0.000	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• BA-1, 0807781HP: *Non-Central Information Management/ Information Technology*	0.000	0.000	0.000	-	0.000	0.000	-	-	-	Continuing	Continuing
• BA-1, 0807714HP: *other health Activities*	0.000	0.000	0.000	-	0.000	0.000	-	-	-	Continuing	Continuing
• BA-1, 0807793DHA: *MHS Tri-Service Information Management/ Information Technology (IM/IT)*	0.074	0.074	0.074	-	0.074	0.074	-	-	-	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013DHA / *Information Technology Development*	**Project (Number/Name)** 283H / *Psychological and Behavioral Health - Tools for Evaluation, Risk, and Management (PBH-TERM)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost

Remarks

BAG 104 funding moved to DHA starting on 01 Oct 2015 per FY 2016 POM MOA.
BAG 103 funding moved to DHA starting on 01 Oct 2016 per FY 2017 POM MOA. Moving DCoE to DHA (BA-1, 0807714HP)

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 congressional mandates and 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 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013DHA / *Information Technology Development*	Project (Number/Name) 283L / *Pharmacovigilance Defense Application System*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
283L: *Pharmacovigilance Defense Application System*	1.698	0.350	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Army Medical Command received PE 0605013 funding to identify, explore, and demonstrate key information technologies to overcome medical and military unique technology barriers. The Pharmacovigilance Defense Application System (PVDAS) provides military providers Defense Patient Safety reports from the Food and Drug Administration (FDA) after a drugÂ´s release to market.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Pharmacovigilance Defense Application System (PVDAS) ***Description:*** The Pharmacovigilance Defense Application System (PVDAS) provides military providers Defense Patient Safety reports from the Food and Drug Administration (FDA) after a drug´s release to market.	0.350	-	-
Accomplishments/Planned Programs Subtotals	0.350	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• BA-1, 0807781HP: *Non-Central Information Management/ Information Technology*	0.000	0.000	0.000	-	0.000	0.000	-	-	-	Continuing	Continuing
• BA-1, 0807714HP: *Other Health Activities*	2.048	0.000	0.000	-	0.000	0.000	-	-	-	Continuing	Continuing
• BA-1, 0807798HP: *Management Headquarters*	1.650	0.000	0.000	-	0.000	0.000	-	-	-	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.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013DHA / *Information Technology Development*	Project (Number/Name) 283P / *Mobile HealthCare Environment (MHCE)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
283P: *Mobile HealthCare Environment (MHCE)*	1.383	0.473	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Army Medical Command received PE 0605013 funding to identify, explore, and demonstrate key information technologies to overcome medical and military unique technology barriers. The Mobile HealthCare Environment (MHCE) is the capability of secure, bidirectional messaging and data exchange between patients, providers and clinics using any electronic device.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Mobile HealthCare Environment (MHCE)	0.473	-	-
Description: The Mobile HealthCare Environment (MHCE) is the capability of secure, bidirectional messaging and data exchange between patients, providers and clinics using any electronic device.			
Accomplishments/Planned Programs Subtotals	0.473	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• BA-1, 0807781HP: *Non-Central Information Management/ Information Technology*	1.551	0.000	0.000	-	0.000	0.000	-	-	-	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.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013DHA / *Information Technology Development*	Project (Number/Name) 480R / *Joint Disability Evaluation System IT (DHA)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
480R: *Joint Disability Evaluation System IT (DHA)*	1.636	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

JDES-IT will provide case level management, tracking and reporting capability that will provide Disability Evaluation System (DES) processors and stakeholders increased transparency of a case through an automated IT solution. Case files and DES information will be electronically transferred and shared within Service components, between the Services, and with Veterans Affairs. The future environment would also include information exchange capability with existing Human Resources (HR) and medical systems to reduce duplicative entry. Funding previously reported under Disability Mediation Service prior to finalize decision on the JDES-IT.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Joint Disability Evaluation System IT (JDES-IT)	0.000	-	-
Description: JDES-IT will provide case level management, tracking and reporting capability that will provide Disability Evaluation System (DES) processors and stakeholders increased transparency of a case through an automated IT solution.			
Accomplishments/Planned Programs Subtotals	0.000	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013DHA / *Information Technology Development*	Project (Number/Name) 485 / *Legacy Data Repository (DHA-C)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
485: *Legacy Data Repository (DHA-C)*	5.531	5.856	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Legacy Data Repository (LDR) will provide the strategy, analysis, and solution to assume data management and governance for legacy Clinical and Business data for Defense Health Agency's Solutions Delivery Division systems that will be decommissioned as the Military Health System (MHS) Genesis electronic health record is deployed.

As MHS Genesis deploys to each site, legacy systems cannot decommission without a legacy data repository to safely and securely migrate data – absence a LDR solution negates and ignores the underlying requirement. Clinicians without access to legacy patient history can create a direct patient safety issue. The legacy component of a patient's Legal Medical Record will no longer be accessible once MHS Genesis rolls out.

LDR will identify, capture, organize, disseminate, and synthesize required legacy data needed to support medical information requirements for Business Intelligence (BI), Continuity of Care, and Archival in support of Defense Health Modernization Systems (DHMS) deployment plans, legacy system decommissioning plans, and operations and sustainment activities within their areas of responsibility.

This initial investment would allow the MHS to realize cost savings by decommissioning systems with overlapping capabilities to MHS Genesis, and reduce the legacy system footprint across the enterprise. Further, LDR would make legacy data available for clinicians through a clinical viewer to compliment the longitudinal record of MHS Genesis. This project will enable clinicians to holistically view a service member's medical record through both MHS Genesis and a legacy viewer. Downstream system dependent on legacy data would also be benefited through a persistence of this information.

As the LDR takes responsibility for legacy data, it must be retained within a flexible, scalable, and cost effective platform, but must also maintain the discipline of existing MHS data governance and management standards. While meeting these data governance and management standards, legacy data will be maintained in a variety of formats and degrees of normalization and structuring (i.e. discrete data, document, object, and file level).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Legacy Data Repository	5.856	-	-
Description: LDR will identify, capture, organize, disseminate, and synthesize required legacy data needed to support medical information requirements for Business Intelligence (BI), Continuity of Care, and Archival in support of Defense Health Modernization Systems (DHMS) deployment plans, legacy system decommissioning plans, and operations and sustainment activities within their areas of responsibility.			
Accomplishments/Planned Programs Subtotals	5.856	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013DHA / *Information Technology Development*	**Project (Number/Name)** 485 / *Legacy Data Repository (DHA-C)*

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 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605013DHA / *Information Technology Development*	Project (Number/Name) 505 / *Military Health System Virtual Health Program (MHS VHP)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
505: *Military Health System Virtual Health Program (MHS VHP)*	0.000	1.927	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Purpose: Establish a unified MHS program to augment military medicine with robust 'anywhere' virtual health capabilities.
The program will include three distinct capabilities in order to meet its initial expected business outcome. The first capability will incorporate secure clinical VTC (synchronous visits) to enable a provider in one location to offer diagnosis and treatment to a patient in another location. Synchronous visits can take place between a provider and patient at different MTFs, or at the patient's location (e.g. their home or other location deemed appropriate by the provider). Synchronous visits at the patient's location can be conducted for primary or specialty care. Primary and Specialty Care appointments via synchronous visits will enable health care anytime, anywhere. The second capability incorporates an Asynchronous secure portal or teleconsultation portal, to enable a pool of specialty care providers globally to deliver timely clinical advice, primarily in operational settings where expertise is scarce, but also in garrison when needed. The portal facilitates 'store and forward' transmission of electronic medical information and associated digital images between health care providers. Specialty clinicians provide expert advice and guidance to the patient's attending physicians, assisting them in the disposition or local treatment options. The third capability is remote health monitoring, to collect, track, and transmit biometric data from the patient via a secure portal to an MTF. The data is accessed by a care coordinator or health care provider at the MTF to provide real-time medical interventions that can improve a patient's health and quality of life.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Military Health System Virtual Health Program (MHS VHP)	1.927	-	-
Description: GOAL: The MHS VHP will connect our beneficiaries to health care globally to increase readiness, access, quality, and patient safety. BENEFIT: Using VH, the best of MHS Medicine across the world can be brought to the patient wherever they are – deployed or in garrison. As a modality without geographic limits, VH extends access to quality primary care, behavioral health, and medical specialty care to remote locations where beneficiaries may be geographically separated from comprehensive Military Treatment Facility (MTF) based care, and where such care is not readily available in the surrounding community. Additionally, VH can help the MHS use its clinical capacity more effectively; cross-leveraging clinical expertise when and where it is needed.			
Accomplishments/Planned Programs Subtotals	1.927	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605013DHA / *Information Technology Development*	**Project (Number/Name)** 505 / *Military Health System Virtual Health Program (MHS VHP)*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

To be determined as program matures.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency	Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	807.544	14.478	18.336	15.751	-	15.751	0.000	0.000	0.000	0.000	Continuing	Continuing
483A: *Information Technology Development - DoD Healthcare Management System Modernization (DHMSM) at DHA*	807.544	14.478	18.336	15.751	-	15.751	0.000	0.000	0.000	0.000	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; and
- 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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	14.478	18.336	15.751	-	15.751
Current President's Budget	14.478	18.336	15.751	-	15.751
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 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
483A: *Information Technology Development - DoD Healthcare Management System Modernization (DHMSM) at DHA*	807.544	14.478	18.336	15.751	-	15.751	0.000	0.000	0.000	0.000	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 2020	FY 2021	FY 2022
Title: DoD Healthcare Management System Modernization (DHMSM) Program	14.478	18.336	15.751

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.

FY 2021 Plans:
FY21 RDT&E:
• Conduct Test Planning of new interfaces, patches, and of semi-annual releases.
• Support configuration efforts for approved enhancements.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
FY21 Procurement: • Purchase required commercial software licenses and perform multiple deployments of the modernized DHMSM EHR to MTFs. • Support Deployment activities to include site visits, localized configuration, deployment activities and on-site deployment support for multiple Wave Deployments (each containing multiple MTFs and Clinics). FY21 O&M: • Operate and maintain DHMSM system, including recurring configuration, integration, and test activities, software license maintenance, hardware refresh, system hosting, and recurring change management and training as applicable. • Continue business management operations and contract management oversight. ***FY 2022 Plans:*** FY 2022 Plans: FY22 RDT&E: • Conduct Test Planning of new interfaces, patches, and of semi-annual releases. • Support configuration efforts for approved enhancements. FY22 Procurement: • Purchase required commercial software licenses and perform multiple deployments of the modernized DHMSM EHR to MTFs. • Support Deployment activities to include site visits, localized configuration, deployment activities and on-site deployment support for multiple Wave Deployments (each containing multiple MTFs and Clinics). FY22 O&M: • Operate and maintain DHMSM system, including recurring configuration, integration, and test activities, software license maintenance, hardware refresh, system hosting, and recurring change management and training as applicable. • Continue business management operations and contract management oversight. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** FY 2022 RDT&E funds decrease in accordance with acquisition schedule.			
Accomplishments/Planned Programs Subtotals	14.478	18.336	15.751

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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*

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-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency	Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	177.045	41.902	46.214	52.948	-	52.948	-	-	-	-	Continuing	Continuing
447A: *Joint Operational Medicine Information System (JOMIS)*	177.045	41.902	46.214	52.948	-	52.948	-	-	-	-	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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	41.902	46.214	52.948	-	52.948
Current President's Budget	41.902	46.214	52.948	-	52.948
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	-	-			

Change Summary Explanation

FY 2021: Realignment of funding to BA 08 (Software and Digital Technology Pilot Program).

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605045DHA / *Joint Operational Medicine Information System (JOMIS)*	Project (Number/Name) 447A / *Joint Operational Medicine Information System (JOMIS)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
447A: *Joint Operational Medicine Information System (JOMIS)*	177.045	41.902	46.214	52.948	-	52.948	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The purpose of JOMIS is to modernize, deploy, and sustain the DoD's OpMed IS while developing and fielding new theater 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 2020	FY 2021	FY 2022
Title: Joint Operational Medicine Information System (JOMIS)	41.902	46.214	52.948
Description: 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 2021 Plans:*** FY 2021 Plans: • Document Capabilities Need Statements (CNS) and User Agreements (UA) with the Program Executive Office (PEO) • Transform the legacy CDD to a modern concept			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0605045DHA / *Joint Operational Medicine Information System (JOMIS)*	**Project (Number/Name)** 447A / *Joint Operational Medicine Information System (JOMIS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
• Develop User Engagement Concept of Operations (CONOPS) • Develop Test and Evaluation and Cyber Integration CONOPS • Gather lessons learned from experiential learning • Ensure approved and modernized delivery model • Develop Strategic Research CONOPS • Create legacy sunset plan • Consolidate functional area documentation • Develop program-level integration CONOPS • Create Program-level metrics ***FY 2022 Plans:*** FY 2022 Plans: • Execute OpMed Capability Roadmap • Acquire Continuous Integration/Continuous Delivery platform to ensure stable, cyber-secure infrastructure for development, testing, training, and production • Initiate development of Operational Medicine Data Service (OMDS) • Acquire software and application development services through Multi-award Contract • Execute Healthcare Delivery development plan including development of MHS GENESIS-Theater, Health Assessment Lite Operations (HALO), and Theater Blood Management system ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Reflects the program's updated strategy and timeline.			
Accomplishments/Planned Programs Subtotals	41.902	46.214	52.948

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

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 2022 Defense Health Agency											Date: May 2021	
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 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	160.599	21.589	21.068	21.489	-	21.489	-	-	-	-	Continuing	Continuing
399A: *Hyperbaric Oxygen Therapy Clinical Trial (Army)*	28.619	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
500A: *CSI - Congressional Special Interests*	18.382	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
375: *GDF - Medical Products and Support System Development*	113.598	21.589	21.068	0.000	-	0.000	-	-	-	-	Continuing	Continuing
375A: *GDF - Medical Simulation and Training*	0.000	0.000	0.000	2.000	-	2.000	-	-	-	-	Continuing	Continuing
375B: *GDF - Medical Readiness*	-	0.000	0.000	8.536	-	8.536	-	-	-	-	Continuing	Continuing
375C: *GDF - Medical Combat Support*	0.000	0.000	0.000	10.953	-	10.953	-	-	-	-	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 2022 Defense Health Agency	Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	21.589	21.068	21.489	-	21.489
Current President's Budget	21.589	21.068	21.489	-	21.489
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	0.000	0.000			

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2020	FY 2021
Project: 500A: *CSI - Congressional Special Interests*		
Congressional Add: *CSI - Congressional Speical Interest*	0.000	0.000
Congressional Add Subtotals for Project: 500A	0.000	0.000
Congressional Add Totals for all Projects	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605145DHA / *Medical Products and S upport Systems Development*	Project (Number/Name) 399A / *Hyperbaric Oxygen Therapy Clinical Trial (Army)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
399A: *Hyperbaric Oxygen Therapy Clinical Trial (Army)*	28.619	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

For the Army, the Hyperbaric Oxygen Therapy (HBO2) clinical trials focus on research related to the development of treatment modalities using HBO2 for chronic post-concussion syndrome after mild traumatic brain injury (mTBI). Three HBO2 human clinical trials were designed to evaluate the effectiveness of HBO2 treatments for Service members who have experienced one or more concussions and who are symptomatic at, or after, the time of post-deployment health reassessments: 1- A pilot phase II (narrow population safety and effectiveness) study of hyperbaric oxygen for persistent post-concussive symptoms after mild traumatic brain injury (HOPPS), 2- Brain Injury and Mechanisms of Action of Hyperbaric Oxygen for Persistent Post-Concussive Symptoms after Mild Traumatic Brain Injury (BIMA), and 3- Development of Normative Datasets for Assessments Planned for Use in Patients with Mild Traumatic Brain Injury (Normal). A fourth retrospective study, Long Term Follow-up (LTFU), is focused on the lessons learned from long-term follow-up of subjects enrolled in the Department of Defense (DoD) primary HBO2 trials. To support these protocols, four HBO2 study sites were established within the Military Health System. Each of the research sites consisted of a hyperbaric oxygen chamber enclosed in a mobile trailer, a second mobile trailer for testing and evaluation of the subjects, and a third subject staging trailer. This information is intended to inform DoD policy decisions regarding the use of HBO2 therapy as a treatment for mTBI.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Hyperbaric Oxygen Therapy Clinical Trial (Army) ***Description:*** The Hyperbaric Oxygen (HBO2) clinical trials are designed to test the effectiveness of HBO2 treatments for Service members who have experienced one or more concussions and who are symptomatic at, or after, the time of post-deployment health reassessments.	0.000	-	-
Accomplishments/Planned Programs Subtotals	0.000	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The acquisition outcome of this effort is a knowledge product, with the results intended to inform DoD mTBI treatment and reimbursement policies. The decision to pursue FDA registration/off-label application of an existing drug-device combination product will be made as part of a formal decision by leadership after the DoD HBO2 trial results are reviewed. If future work using HBO2 proves beneficial in the treatment of PTSD this knowledge product would inform DoD treatment and reimbursement policies.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605145DHA / *Medical Products and S upport Systems Development*	Project (Number/Name) 500A / *CSI - Congressional Special Interests*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
500A: *CSI - Congressional Special Interests*	18.382	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)	FY 2020	FY 2021
Congressional Add: CSI - Congressional Speical Interest	0.000	0.000
FY 2020 Accomplishments: No CSI		
FY 2021 Plans: No CSI		
Congressional Adds Subtotals	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 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605145DHA / *Medical Products and S upport Systems Development*	Project (Number/Name) 375 / *GDF - Medical Products and Support System Development*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
375: *GDF - Medical Products and Support System Development*	113.598	21.589	21.068	0.000	-	0.000	-	-	-	-	Continuing	Continuing

Note

Starting in FY2022 Project 375 is being 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 2020	FY 2021	FY 2022
Title: GDF - Medical Products and Support Systems Development (GDF-MPSSD)	21.589	21.068	-

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 2021 Plans:

Medical Simulation and Training: 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.

Medical Readiness: 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 nondiagnostic physiologic date in real-time to improve Warfighter health, readiness and performance, reduce casualties, and increase situational awareness.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Medical Combat Support: Programs will focus on operational support. The Next Generation Diagnostic System-Infectious Disease Panel program obtained FDA Approval. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Starting in FY 2022, Project 375 is being realigned into Projects 375A, 375B, and 375C.			
Accomplishments/Planned Programs Subtotals	21.589	21.068	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
375A: *GDF - Medical Simulation and Training*	0.000	0.000	0.000	2.000	-	2.000	-	-	-	-	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 2020	FY 2021	FY 2022
Title: GDF - Medical Simulation and Training	-	-	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 2022 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 2021 to FY 2022 Increase/Decrease Statement: Starting in FY 2022, Project 375A was realigned from Project 375.			
Accomplishments/Planned Programs Subtotals	-	-	2.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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*

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 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605145DHA / *Medical Products and S upport Systems Development*	Project (Number/Name) 375B / *GDF - Medical Readiness*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
375B: *GDF - Medical Readiness*	-	0.000	0.000	8.536	-	8.536	-	-	-	-	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 2020	FY 2021	FY 2022
Title: GDF - Medical Readiness	-	-	8.536
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 2022 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.			
FY 2021 to FY 2022 Increase/Decrease Statement: Starting in FY 2022, Project 375B was realigned from Project 375.			
Accomplishments/Planned Programs Subtotals	-	-	8.536

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 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
375C: *GDF - Medical Combat Support*	0.000	0.000	0.000	10.953	-	10.953	-	-	-	-	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 2020	FY 2021	FY 2022
Title: GDF - Medical Combat Support	-	-	10.953
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 2022 Plans: Programs will focus on the continued operational support of Cold Stored Platelets and Battlefield Pain Management clinical trials.			
FY 2021 to FY 2022 Increase/Decrease Statement: Starting in FY 2022, Project 375C was realigned from Project 375.			
Accomplishments/Planned Programs Subtotals	-	-	10.953

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-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency											Date: May 2021	
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 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	401.961	69.219	48.672	49.645	-	49.645	-	-	-	-	Continuing	Continuing
433A: *NMRC Biological Defense Research Directorate (BDRD) (Navy)*	20.799	5.163	3.267	3.371	-	3.371	-	-	-	-	Continuing	Continuing
494A: *Medical Development (Lab Support) (Navy)*	121.210	42.554	45.405	46.274	-	46.274	-	-	-	-	Continuing	Continuing
305T: *USAMRIID IO&T (Army)*	110.118	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
401A: *CONUS Laboratory Support Clinical Infrastructure (Army)*	38.946	5.358	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
432A: *OCONUS Laboratory Infrastructure Support (Army)*	76.403	14.144	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
600A: *CSI - Congressional Special Interests*	34.485	2.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Army Medical Command 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 Office of the Assistant Secretary of Defense for Health Affairs (Force Health Protection & Readiness) receives funds to provide management support for research projects at Pacific Joint Information Technology Center (P-JITC).

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 bioforensic analysis of biological threat agents.

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency	Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	69.219	48.672	49.645	-	49.645
Current President's Budget	69.219	48.672	49.645	-	49.645
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	-	-			

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2020	FY 2021
Project: 600A: *CSI - Congressional Special Interests*		
Congressional Add: *PC 466 - CSI Core Restoral Medical Program-wide Activities*	2.000	-
Congressional Add Subtotals for Project: 600A	2.000	-
Congressional Add Totals for all Projects	2.000	-

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
433A: *NMRC Biological Defense Research Directorate (BDRD) (Navy)*	20.799	5.163	3.267	3.371	-	3.371	-	-	-	-	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 2020	FY 2021	FY 2022
Title: NMRC Biological Defense Research Directorate (BDRD) (Navy)	5.163	3.267	3.371
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 2021 Plans:*** Supports the Biological Defense Research continues 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. Increase reflects pricing adjustments. ***FY 2022 Plans:*** Will support the Biological Defense Research continues 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. Increase reflects pricing adjustments. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Increase is due to inflation.			
Accomplishments/Planned Programs Subtotals	5.163	3.267	3.371

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
494A: *Medical Development (Lab Support) (Navy)*	121.210	42.554	45.405	46.274	-	46.274	-	-	-	-	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 2020	FY 2021	FY 2022
Title: Medical Development (Lab Support) (Navy)	42.554	45.405	46.274
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 2021 Plans:*** Supports 8 medical RDT&E labs by covering 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. ***FY 2022 Plans:*** Will support 8 medical RDT&E labs by covering 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. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Increase is due to inflation.			
Accomplishments/Planned Programs Subtotals	42.554	45.405	46.274

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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)

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0606105DHA / *Medical Program-Wide Activities*	Project (Number/Name) 305T / *USAMRIID IO&T (Army)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
305T: *USAMRIID IO&T (Army)*	110.118	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Funding supports the initial outfitting and transition (IO&T) costs associated with military construction (MILCON) for the US Army Medical Research Institute of Infectious Diseases (USAMRIID), Fort Detrick, Maryland.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: USAMRIID IO&T (Army) ***Description:*** US Army Medical Research Institute of Infectious Diseases in Fort Detrick, Maryland, IO&T costs associated with MILCON.	0.000	-	-
Accomplishments/Planned Programs 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 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0606105DHA / *Medical Program-Wide Activities*	Project (Number/Name) 401A / *CONUS Laboratory Support Clinical Infrastructure (Army)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
401A: *CONUS Laboratory Support Clinical Infrastructure (Army)*	38.946	5.358	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Continental United States Laboratory Infrastructure Support funding provides infrastructure and management support for selected laboratories and research sites, enabling basic to late stage clinical investigations on medical products through collaborative efforts with the Military Health System's (MHS) Military Treatment Facilities (MTFs). MTFs provide access to the patient populations who will benefit the most from the medical products and capabilities being developed. The funds support the retention of technical subject matter expertise, independent of the number of assigned projects. The infrastructure funds also support Institutional Review Board functions, research technical support, statistical support, grant writing assistance, and other essential functions for maintaining research in MTFs. The funds do not support research, but provide the infrastructure support enabling MTF investigators to compete for research, development, test, and evaluation (RDT&E) research funds.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: CONUS Laboratory Support Clinical Infrastructure (Army)	5.358	-	-
Description: Management support for research infrastructure at select laboratories and research sites that conduct basic to late-stage clinical research and evaluation of investigational products, such as biologics, drugs, and devices to treat/prevent polytrauma (multiple traumatic injuries), through collaborative efforts with the MHS MTFs.			
Accomplishments/Planned Programs Subtotals	5.358	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0606105DHA / *Medical Program-Wide Activities*	Project (Number/Name) 432A / *OCONUS Laboratory Infrastructure Support (Army)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
432A: *OCONUS Laboratory Infrastructure Support (Army)*	76.403	14.144	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Outside of the Continental United States (OCONUS) Laboratory Infrastructure Support provides management support for research infrastructure at selected overseas laboratories and research sites that conduct biosurveillance and basic to late-stage clinical research and evaluation of investigational products, such as biologics, drugs, protectants, technologies, and knowledge products to treat/prevent infectious diseases for the purpose of protecting the Warfighter; this is accomplished through collaborative efforts with the respective host nation governments. These sites are the US Army Medical Research Directorate-Kenya (USAMRD-K) in Nairobi, Kenya, the US Army Medical Research Directorate-Georgia (USAMRD-G) in Tbilisi, Georgia, and the US Army Medical Directorate-Armed Forces Research Institute of Medical Sciences (USAMD-AFRIMS) in Bangkok, Thailand. USAMRD-G is the newest laboratory, and provides support in the Caucasus region, similar to that provided by the laboratories in Kenya and Thailand to East Africa and Southeast Asia regions.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: OCONUS Laboratory Infrastructure Support (Army)	14.144	-	-
Description: Management support for research infrastructure at selected overseas laboratories and research sites is integral to support the development and testing of improved means of predicting, detecting, preventing, and treating infectious disease threats to the US military, as well as support for surveillance, training, research, and response activities for emerging infectious disease threats that could affect Service members in those regions. Supported OCONUS laboratories are the US Army Medical Directorate-Armed Forces Research Institute of Medical Sciences (AFRIMS) in Bangkok, Thailand; the US Army Research Directorate-Kenya (USAMRD-K) in Nairobi, Kenya; and the US Army Medical Research Directorate-Georgia (USAMRD-G) in Tbilisi, Georgia.			
Accomplishments/Planned Programs Subtotals	14.144	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0606105DHA / *Medical Program-Wide Activities*	Project (Number/Name) 600A / *CSI - Congressional Special Interests*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
600A: *CSI - Congressional Special Interests*	34.485	2.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

DHP Congressional Special Interest (CSI) Restoral funding is directed toward core research initiatives in Program Element (PE) 0606105 - Medical Program-Wide Activities. Because of the CSI annual structure, out-year funding is not programmed.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021
Congressional Add: PC 466 - CSI Core Restoral Medical Program-wide Activities	2.000	-
FY 2020 Accomplishments: CSI Restoral		
Congressional Adds Subtotals	2.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency											Date: May 2021	
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 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	113.416	16.819	17.215	17.619	-	17.619	0.000	0.000	0.000	0.000	Continuing	Continuing
377A: *GDF-Medical Products and Capabilities Enhancement Activities*	109.698	16.819	17.215	17.619	-	17.619	-	-	-	-	Continuing	Continuing
457A: *AF Advanced Technology Development – Rapid Technology Transition*	1.336	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
700A: *CSI - Congressional Special Interests*	2.382	0.000	0.000	0.000	-	0.000	-	-	-	-	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).

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Health Agency					Date: May 2021
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*			
B. Program Change Summary ($ in Millions)	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**
Previous President's Budget	16.819	17.215	17.619	-	17.619
Current President's Budget	16.819	17.215	17.619	-	17.619
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	-	-			

Change Summary Explanation

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
377A: *GDF-Medical Products and Capabilities Enhancement Activities*	109.698	16.819	17.215	17.619	-	17.619	-	-	-	-	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 2020	FY 2021	FY 2022
Title: 377A: GDF – Medical Products and Capabilities Enhancement Activities	16.819	17.215	17.619

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 2021 Plans:

Funding will be used to modernize and upgrade products through joint testing and evaluation to improve fielding and procurement of medical materiel products. Programs for enhancement include: an assessment of a novel video laryngoscope for far-forward endotracheal intubation; evaluation of markerless-based motion capture technology as a screening tool for musculoskeletal injury; evaluation of a longer-acting sleep aid for military operations; expanding the use of a hemostatic device to control bleeding in wounded areas where a tourniquet cannot be utilized; and enhance a burn navigator application for care of burn patients in an operational setting.

FY 2022 Plans:

FY 2022 plans continue efforts as outlined in FY 2021 and support upgrades necessary to modernize Adenovirus manufacturing obsolescence of fielded medical equipment and devices.

FY 2021 to FY 2022 Increase/Decrease Statement:

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency		Date: May 2021
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 2020	FY 2021	FY 2022
Pricing adjustment for inflation.			
Accomplishments/Planned Programs Subtotals	16.819	17.215	17.619

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

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.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency			Date: May 2021
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0607100DHA / *Medical Products and Capabilities Enhancement Activities*	Project (Number/Name) 457A / *AF Advanced Technology Development – Rapid Technology Transition*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
457A: *AF Advanced Technology Development – Rapid Technology Transition*	1.336	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Air Force - Medical Products and Capabilities Enhancement Activities: Funds support a developmental upgrade to a medical product that has been fielded and for which procurement funding is anticipated subsequent fiscal years.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: AF Advanced Technology Development – Rapid Technology Transition	0.000	-	-
Description: Provide 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.			
Accomplishments/Planned Programs Subtotals	0.000	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

$1.1M FY15/17 Defense Health Program – Air Force Procurement funds

D. Acquisition Strategy

Cost-plus Fixed Fee contract award to performer via the Army-Natick Soldier Systems Research Development and Execution Center contracting activity.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Health Agency											Date: May 2021	
Appropriation/Budget Activity 0130 / 2					R-1 Program Element (Number/Name) PE 0607100DHA / *Medical Products and Capabilities Enhancement Activities*				Project (Number/Name) 700A / *CSI - Congressional Special Interests*			
COST ($ in Millions)	**Prior Years**	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
700A: *CSI - Congressional Special Interests*	2.382	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

Note

N/A

A. Mission Description and Budget Item Justification

Congressional Special Interest (CSI) funding directed toward core research initiatives in Program Element (PE) 0607100 - Medical Products and Capabilities Enhancement Activities.

B. Accomplishments/Planned Programs ($ in Millions)

N/A

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

N/A