Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army											Date: March 2023	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 3: *Advanced Technology Development (ATD)*					R-1 Program Element (Number/Name) PE 0603002A *I Medical Advanced Technology*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	147.287	31.588	4.147	-	4.147	3.106	2.042	2.044	2.066	0.000	192.280
814: *NEUROFIBROMATOSIS (CA)*	-	20.000	-	-	-	-	-	-	-	-	0.000	20.000
945: *BREAST CANCER STAMP PROCEEDS*	-	0.523	-	-	-	-	-	-	-	-	0.000	0.523
97T: *NEUROTOXIN EXPOSURE TREATMENT (CA)*	-	16.000	-	-	-	-	-	-	-	-	0.000	16.000
CJ3: *Prophylactic for Endemic Diarrheal Diseases*	-	3.863	-	-	-	-	-	-	-	-	0.000	3.863
MM2: *MEDICAL ADVANCE TECHNOLOGY INITIATIVES (CA)*	-	68.000	26.381	-	-	-	-	-	-	-	0.000	94.381
MM7: *Enabling Med Cap to Support Dispersed OPS Adv Tech*	-	3.120	0.749	0.856	-	0.856	1.036	1.037	1.038	1.049	0.000	8.885
MN3: *Immediate Cardiopulmonary Stabilization Adv Tech*	-	1.702	-	-	-	-	-	-	-	-	0.000	1.702
MN4: *Advanced Life Support Advanced Technology*	-	3.797	-	-	-	-	-	-	-	-	0.000	3.797
MN5: *Next Generation Blood Products Advanced Technology*	-	9.275	-	-	-	-	-	-	-	-	0.000	9.275
MN6: *Blast & Head Impact Exposure Monitor Advanced Tech*	-	1.490	1.168	-	-	-	-	-	-	-	0.000	2.658
MN7: *Musculoskeletal Injury Screening Tool Adv Tech*	-	1.604	1.276	0.762	-	0.762	0.827	0.484	0.485	0.490	0.000	5.928
MN9: *Far Forward Behavioral Health Care Advanced Tech*	-	0.273	-	-	-	-	-	-	-	-	0.000	0.273

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 3: *Advanced Technology Development (ATD)*					R-1 Program Element (Number/Name) PE 0603002A *I Medical Advanced Technology*							
MO2: *Traumatic Brain Injury (TBI) Treatment Adv Tech*	-	10.418	-	-	-	-	-	-	-	-	0.000	10.418
MO4: *Burn Recovery Optimization Advanced Technology*	-	2.035	-	-	-	-	-	-	-	-	0.000	2.035
MO7: *Improved Bone Repair Advanced Technology*	-	1.050	-	-	-	-	-	-	-	-	0.000	1.050
MO8: *Expeditionary Performance Nutrition Advanced Techn*	-	1.929	0.175	0.731	-	0.731	0.164	0.164	0.164	0.166	0.000	3.493
MP3: *Phys Chem Toxicity Assessment Sys Adv Tech*	-	2.208	1.839	1.798	-	1.798	1.079	0.357	0.357	0.361	0.000	7.999

A. Mission Description and Budget Item Justification

This Program Element (PE) matures and demonstrates advanced medical technologies including drugs, vaccines, medical diagnostic devices, measures for identification and vector control, and developing medical practices and procedures to effectively protect and improve the survivability of United States Forces across the entire spectrum of military operations. Tri-Service coordination and cooperative efforts are focused in four principal medical areas: Combat Casualty Care, Military Operational Medicine, Militarily Relevant Infectious Diseases, and Clinical and Rehabilitative Medicine. Starting in Fiscal Year 2020 (FY20), the principal area of Clinical and Rehabilitative Medicine is replaced with the area of Medical Assist Support Technologies.

Promising medical technologies are refined and validated through extensive testing, which is conducted in compliance with Food and Drug Administration (FDA) regulations for human medical products, and environmental protection agency (EPA) regulations for insect-control products that impact humans or the environment (e.g., repellents and insecticides). The FDA requires medical products to undergo extensive preclinical testing in animals and/or other models to obtain preliminary effectiveness and safety information before they can be tested in human clinical trials. Clinical trials are conducted stepwise: first to prove the product is safe in humans, second to demonstrate the desired effectiveness and optimal dosage (amount to be administered) in a small group human study, and third to demonstrate effectiveness in large, diverse human populations. Each successive phase includes larger numbers of human subjects and requires FDA cognizance prior to proceeding. Work conducted in this PE primarily focuses on late stages of technology maturation activities required to conduct safety and effectiveness clinical trials. Some high-risk technologies may require additional maturation with FDA guidance prior to initiating these clinical trials. Such things as proof of product stability and purity are necessary to meet FDA standards before entering later stages of testing and prior to transitioning into a formal acquisition program where large pivotal trials in diverse populations will be conducted for licensure. Activities in this PE may include completion of preclinical animal studies and small safety and effectiveness studies involving humans according to FDA and EPA requirements. Promising medical technologies that are not regulated by the FDA or EPA are modeled, prototyped, and tested in relevant environments.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army	Date: March 2023
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603002A *I Medical Advanced Technology*

Blast research and research into maturing field rations in this PE are fully coordinated with the United States Army Combat Capabilities Development Command Soldier Center. This coordination enables improved body armor design and rations for Soldiers. Additionally, the activities funded in this PE are externally peer reviewed and fully coordinated with all Services as well as other agencies through the Joint Technology Coordinating Groups of the Armed Services Biomedical Research Evaluation and Management (ASBREM) Community of Interest (COI). The ASBREM COI, formed under the authority of the Under Secretary of Defense for Research and Engineering, serves to facilitate coordination and prevent unnecessary duplication of effort within the Department of Defense's biomedical research and development community, as well as its associated enabling research areas.

The cited research is consistent with the Under Secretary of Defense (Research and Engineering) Science and Technology (S&T) focus areas and the Army Modernization Strategy.

Work in this PE is performed by: the United States Army Medical Research and Development Command (USAMRDC), Fort Detrick, MD.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	137.804	5.207	4.129	-	4.129
Current President's Budget	147.287	31.588	4.147	-	4.147
Total Adjustments	9.483	26.381	0.018	-	0.018
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	26.381			
• Congressional Directed Transfers	-	-			
• Reprogrammings	9.483	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	0.018	-	0.018

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 814: *NEUROFIBROMATOSIS (CA)*		
Congressional Add: *Neurofibromatosis (CA)*	20.000	-
Congressional Add Subtotals for Project: 814	20.000	-
Project: 945: *BREAST CANCER STAMP PROCEEDS*		
Congressional Add: *Breast Cancer Stamp Proceeds*	0.523	-
Congressional Add Subtotals for Project: 945	0.523	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army	Date: March 2023
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603002A *I Medical Advanced Technology*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 97T: *NEUROTOXIN EXPOSURE TREATMENT (CA)*		
Congressional Add: *Peer-reviewed Neurotoxin Exposure Treatment Parkinson's Research*	16.000	-
Congressional Add Subtotals for Project: 97T	16.000	-
Project: MM2: *MEDICAL ADVANCE TECHNOLOGY INITIATIVES (CA)*		
Congressional Add: *Program Increase: Burn Care Training Curriculum*	5.000	-
Congressional Add: *Program Increase - Peer-Reviewed Military Burn Research*	10.000	-
Congressional Add: *Program Increase - AERIAL RECONFIGURABLE EMBEDDED SYSTEM*	5.000	9.500
Congressional Add: *Dengue Vaccine Development*	6.000	-
Congressional Add: *Hearing Protection for Communications*	5.000	-
Congressional Add: *Heat Stress on Female Service Members*	2.000	-
Congressional Add: *Optimizing Military Health and Performance*	7.000	-
Congressional Add: *Freeze Dried Platelets*	10.000	-
Congressional Add: *Rapid Vaccine Development*	10.000	-
Congressional Add: *Program Increase - SUICIDE PREVENTION WITH FOCUS ON RURAL, REMOTE, ISOLATED, AND OCONUS INSTALLATIONS*	3.000	2.000
Congressional Add: *Trauma Immunology Research*	5.000	-
Congressional Add: *Program Increase - ARMY BATTLEFIELD EXERCISE AND COMBAT RELATED TRAUMATIC BRAIN AND SPINAL CORD INJURY RESEARCH*	-	1.700
Congressional Add: *Program Increase - HEAD SUPPORTED MASS*	-	5.000
Congressional Add: *Program Increase - HEARING PROTECTION FOR COMMUNICATIONS*	-	8.000
Congressional Add: *Program Increase - HEATED GARMENT TESTING EQUIPMENT FOR WARFIGHTERS*	-	0.181
Congressional Add Subtotals for Project: MM2	68.000	26.381
Congressional Add Totals for all Projects	104.523	26.381

Change Summary Explanation

Increased funding due to revised economic assumptions.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*	Project (Number/Name) 814 / *NEUROFIBROMATOSIS (CA)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
814: *NEUROFIBROMATOSIS (CA)*	-	20.000	-	-	-	-	-	-	-	-	0.000	20.000
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Congressional increase for Neurofibromatosis Research Program.

A. Mission Description and Budget Item Justification

Congressional Interest Item funding for Neurofibromatosis research.

The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
Congressional Add: Neurofibromatosis (CA)	20.000	-
FY 2022 Accomplishments: Program increase supported advanced research on Neurofibromatosis.		
Congressional Adds Subtotals	20.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*	Project (Number/Name) 945 / *BREAST CANCER STAMP PROCEEDS*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
945: *BREAST CANCER STAMP PROCEEDS*	-	0.523	-	-	-	-	-	-	-	-	0.000	0.523
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This Project receives funds as proceeds from the sale of Breast Cancer Stamps.

A. Mission Description and Budget Item Justification

This Project receives funds as proceeds from the sale of Breast Cancer Stamps.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
Congressional Add: Breast Cancer Stamp Proceeds ***FY 2022 Accomplishments:*** Breast cancer stamp proceeds.	0.523	-
Congressional Adds Subtotals	0.523	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*	Project (Number/Name) 97T / *NEUROTOXIN EXPOSURE TREATMENT (CA)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
97T: *NEUROTOXIN EXPOSURE TREATMENT (CA)*	-	16.000	-	-	-	-	-	-	-	-	0.000	16.000
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Congressional increase for Peer-Reviewed Neurotoxin Exposure Treatment Parkinson's Research Program.

A. Mission Description and Budget Item Justification

Congressional Interest Item funding for Neurotoxin Exposure Treatment.

The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
Congressional Add: Peer-reviewed Neurotoxin Exposure Treatment Parkinson's Research	16.000	-
FY 2022 Accomplishments: Program Increase supported advanced research on Neurotoxin Exposure Treatment Parkinson's Research.		
Congressional Adds Subtotals	16.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*	Project (Number/Name) CJ3 / *Prophylactic for Endemic Diarrheal Diseases*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CJ3: *Prophylactic for Endemic Diarrheal Diseases*	-	3.863	-	-	-	-	-	-	-	-	0.000	3.863
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Funding and mission in this project are realigned as part of US Army Medical Research and Development Command transfer to the Defense Health Agency in order to meet Congressional intent as outlined in NDAA 2019 (Section 711) and NDAA 2020 (Section 737). Funding transferred to Program Element 0603115DHA, Project Code 373H.

A. Mission Description and Budget Item Justification

Demonstrate bacterial diarrheal prophylactic candidate safety, effectiveness, and pharmacokinetics through clinical trials in humans. Transition the prophylactic candidate to product developer in support of future FDA licensure.

Research is conducted in compliance with the United States Food and Drug Administration (FDA) regulations for medical products for human use.

Research is managed by the United States Army Medical Research and Development Command (USAMRDC) in coordination with the Naval Medical Research Center (NMRC). The Army is responsible for programming and funding all Department of Defense (DoD) naturally occurring infectious disease research requirements, thereby precluding duplication of effort within the Military Departments.

The cited research is consistent with the Under Secretary of Defense (Research and Engineering) science and technology focus areas and the Army Modernization Strategy.

Research in this Project is performed by the USAMRDC, Fort Detrick, MD.

Efforts in this Project support the Soldier portfolio and the principal area of Military Relevant Infectious Diseases.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Prophylactic for Endemic Diarrheal Diseases	3.863	-	-
Description: Demonstrate bacterial diarrheal prophylactic candidate safety, effectiveness, and pharmacokinetics through clinical trials in humans in support of future FDA licensure.			
Accomplishments/Planned Programs Subtotals	3.863	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603002A / *Medical Advanced Technology*	**Project (Number/Name)** CJ3 / *Prophylactic for Endemic Diarrheal Diseases*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*	Project (Number/Name) MM2 / *MEDICAL ADVANCE TECHNOLOGY INITIATIVES (CA)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MM2: *MEDICAL ADVANCE TECHNOLOGY INITIATIVES (CA)*	-	68.000	26.381	-	-	-	-	-	-	-	0.000	94.381
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Congressional Interest Item funding for Medical Advanced Technology Initiatives.

The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
Congressional Add: Program Increase: Burn Care Training Curriculum ***FY 2022 Accomplishments:*** Congressional Interest Item funding provided for Burn Care Training Curriculum	5.000	-
Congressional Add: Program Increase - Peer-Reviewed Military Burn Research ***FY 2022 Accomplishments:*** Congressional Interest Item funding provided for Peer-Reviewed Military Burn Research	10.000	-
Congressional Add: Program Increase - AERIAL RECONFIGURABLE EMBEDDED SYSTEM ***FY 2022 Accomplishments:*** Congressional Interest Item funding provided for Aerial Reconfigurable Embedded System ***FY 2023 Plans:*** Congressional Interest Item funding provided for Aerial Reconfigurable Embedded System	5.000	9.500
Congressional Add: Dengue Vaccine Development ***FY 2022 Accomplishments:*** Congressional Interest Item funding provided for Dengue Vaccine Development	6.000	-
Congressional Add: Hearing Protection for Communications ***FY 2022 Accomplishments:*** Congressional Interest Item funding provided for Hearing Protection for Communications	5.000	-
Congressional Add: Heat Stress on Female Service Members	2.000	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603002A / *Medical Advanced Technology*	**Project (Number/Name)** MM2 / *MEDICAL ADVANCE TECHNOLOGY INITIATIVES (CA)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
FY 2022 Accomplishments: Congressional Interest Item funding provided for Heat Stress on Female Service Members		
Congressional Add: Optimizing Military Health and Performance	7.000	-
FY 2022 Accomplishments: Congressional Interest Item funding provided for Optimizing Military Health and Performance		
Congressional Add: Freeze Dried Platelets	10.000	-
FY 2022 Accomplishments: Congressional Interest Item funding provided for Freeze Dried Platelets		
Congressional Add: Rapid Vaccine Development	10.000	-
FY 2022 Accomplishments: Congressional Interest Item funding provided for Rapid Vaccine Development		
Congressional Add: Program Increase - SUICIDE PREVENTION WITH FOCUS ON RURAL, REMOTE, ISOLATED, AND OCONUS INSTALLATIONS	3.000	2.000
FY 2022 Accomplishments: Congressional Interest Item funding provided for Suicide Prevention with Focus on Rural, Remote, Isolated, and OCONUS Installations		
FY 2023 Plans: Congressional Interest Item funding provided for SUICIDE PREVENTION WITH FOCUS ON RURAL, REMOTE, ISOLATED, AND OCONUS INSTALLATIONS		
Congressional Add: Trauma Immunology Research	5.000	-
FY 2022 Accomplishments: Congressional Interest Item funding provided for Trauma Immunology Research		
Congressional Add: Program Increase - ARMY BATTLEFIELD EXERCISE AND COMBAT RELATED TRAUMATIC BRAIN AND SPINAL CORD INJURY RESEARCH	-	1.700
FY 2023 Plans: Congressional Interest Item funding provided for ARMY BATTLEFIELD EXERCISE AND COMBAT RELATED TRAUMATIC BRAIN AND SPINAL CORD INJURY RESEARCH		
Congressional Add: Program Increase - HEAD SUPPORTED MASS	-	5.000
FY 2023 Plans: Congressional Interest Item funding provided for Head Supported Mass		
Congressional Add: Program Increase - HEARING PROTECTION FOR COMMUNICATIONS	-	8.000
FY 2023 Plans: Congressional Interest Item funding provided for Hearing Protection for Communications		
Congressional Add: Program Increase - HEATED GARMENT TESTING EQUIPMENT FOR WARFIGHTERS	-	0.181

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603002A / *Medical Advanced Technology*	**Project (Number/Name)** MM2 / *MEDICAL ADVANCE TECHNOLOGY INITIATIVES (CA)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
FY 2023 Plans: Congressional Interest Item funding provided for Heated Garment Testing Equipment for Warfighters		
Congressional Adds Subtotals	68.000	26.381

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*	Project (Number/Name) MM7 / *Enabling Med Cap to Support Dispersed OPS Adv Tech*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MM7: *Enabling Med Cap to Support Dispersed OPS Adv Tech*	-	3.120	0.749	0.856	-	0.856	1.036	1.037	1.038	1.049	0.000	8.885
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Matures and demonstrates a tele-monitored and remote-controlled Combat Evacuation Mission Module to support medical resupply and casualty evacuation using future multi-purpose Vertical Take-Off and Landing (VTOL) unmanned aircraft systems (UAS). Provides a self-contained medical module capability adaptable to various future multi- purpose VTOL UAS. Matures and demonstrates an intelligent decision-support capability that can be operated on an Army or Navy provided End User Device (EUD), such as the NETT Warrior system, to assist medics with patient assessment, triage, treatment, and disposition in a Prolonged Field Care (PFC) environment by assessing patient conditions to provide adaptive care guidelines.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Develop Prototype Medical Robotic and Autonomous System (Med-RAS)	3.120	0.722	0.856
Description: Matures and demonstrates a tele-monitored and remote-controlled Combat Evacuation Mission Module to support medical resupply and casualty evacuation using future multi-purpose VTOL UAS. Provides a self-contained medical module capability adaptable to various future multi- purpose VTOL UAS. Matures and demonstrates an intelligent decision-support capability that can be operated on an Army or Navy provided EUD, such as the NETT Warrior system, to assist medics with patient assessment, triage, treatment, and disposition in a PFC environment by assessing patient conditions to provide adaptive care guidelines. ***FY 2023 Plans:*** Mature the combat evacuation mission module (CEMM) and conceptual designs and physical prototypes of the Multi-Mission Vehicle Interface (MMVI); demonstration the MMVI prototype with the Future Vertical Lift prototype or technology demonstrator vehicle or an "optionally-manned" aircraft and /or Squad Multi-purpose Equipment Transport unmanned ground vehicle. ***FY 2024 Plans:*** Will continue work to mature the Combat Evacuation Mission Module (CEMM) and conceptual designs and physical prototypes of the Multi-Mission Vehicle Interface (MMVI). Will demonstrate the technology and advance the communication infrastructure towards optimal multipurpose system. ***FY 2023 to FY 2024 Increase/Decrease Statement:***			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603002A / *Medical Advanced Technology*	**Project (Number/Name)** MM7 / *Enabling Med Cap to Support Dispersed OPS Adv Tech*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Funding change reflects planned lifecycle of this effort.			
Title: SBIR/STTR Transfer	-	0.027	-
FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638.			
FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638.			
Accomplishments/Planned Programs Subtotals	3.120	0.749	0.856

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*	Project (Number/Name) MN3 / *Immediate Cardiopulmonary Stabilization Adv Tech*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MN3: *Immediate Cardiopulmonary Stabilization Adv Tech*	-	1.702	-	-	-	-	-	-	-	-	0.000	1.702
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project covers development, pre-clinical and early-clinical demonstration, and transition of technologies for immediate pre-hospital hemorrhage detection and control and airway management. These technologies facilitate autonomous intubation and airway management in combat casualties with obstructed airways. This Project also demonstrates advanced technologies for use in forward areas to detect and control non-compressible internal bleeding, and demonstration of pain-relieving drugs that are safe for use during bleeding.

Promising efforts identified through Applied Research conducted under Program Element (PE) 0602787A (Medical Technology) / Project MM4 (Cbt Casualty Care Applied Rsch Technology) are further matured under this Project. Promising results identified under this Project are further matured under PE 0603807A (Medical Systems Advanced Development) / Project 836 (Field Medical Systems Advanced Development).

The cited research is consistent with the Under Secretary of Defense (Research and Engineering) science and technology focus areas and the Army Modernization Strategy.

Research in this Project is performed by the United States Army Medical Research and Development Command (USAMRDC), Fort Detrick, MD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Tactical Combat Casualty Care Pharmaceuticals and Devices Cap Set 1	1.702	-	-
Description: Development, late-phase animal studies and early-clinical demonstration, and transition of technologies that facilitate autonomous intubation and airway management in combat casualties with obstructed airways, as well as advanced hemostatic (arrest of bleeding) bandage candidates that correct the patient's blood clotting system and new tourniquet technologies suitable for prolonged use.			
Accomplishments/Planned Programs Subtotals	1.702	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603002A / *Medical Advanced Technology*	**Project (Number/Name)** MN3 / *Immediate Cardiopulmonary Stabilization Adv Tech*

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*	Project (Number/Name) MN4 / *Advanced Life Support Advanced Technology*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MN4: *Advanced Life Support Advanced Technology*	-	3.797	-	-	-	-	-	-	-	-	0.000	3.797
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project covers development, demonstration, and transition of technologies that enable advanced life support under prolonged care scenarios, including life-support devices that provide lung and kidney functions in casualties with severe injuries and devices and clinical guidelines for the prevention of irreversible organ damage resulting from prolonged lack of blood circulation.

All research is conducted in compliance with Food and Drug Administration (FDA) requirements for licensure of medical products for human use.

Promising efforts identified through Applied Research conducted under Program Element (PE) 0602787A (Medical Technology) / Project MM4 (Cbt Casualty Care Applied Rsch Technology) are further matured under this Project. Promising results identified under this Project are further matured under PE 0603807A (Medical Systems Advanced Development) / Project 836 (Field Medical Systems Advanced Development).

The cited research is consistent with the Under Secretary of Defense (Research and Engineering) science and technology focus areas and the Army Modernization Strategy.

Work in this Project is performed by the United States Army Medical Research and Development Command (USAMRDC), Fort Detrick, MD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Battlefield Sustainment of Critical Organ Function Capability Set 1	3.797	-	-
Description: Develop, demonstrate and transition technologies that enable advanced life support under prolonged field care scenarios: life-support devices that provide lung and kidney functions in casualties with severe injuries, and devices and clinical guidelines for the prevention of irreversible organ damage resulting from prolonged lack of blood circulation.			
Accomplishments/Planned Programs Subtotals	3.797	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603002A / *Medical Advanced Technology*	**Project (Number/Name)** MN4 / *Advanced Life Support Advanced Technology*

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*	Project (Number/Name) MN5 / *Next Generation Blood Products Advanced Technology*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MN5: *Next Generation Blood Products Advanced Technology*	-	9.275	-	-	-	-	-	-	-	-	0.000	9.275
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project covers technology development, pre-clinical and early-clinical demonstration, and transition of new blood products with increased shelf life and functionality. Cold-stored platelets, fibrinogen replacement technologies, and pharmaceuticals that protect and metabolically stabilize blood-deprived tissues and reverse impaired blood clotting subsequent to severe injury, will improve prompt hemorrhage control, mitigate effects of shock, and minimize sustainment requirements.

All research is conducted in compliance with Food and Drug Administration (FDA) requirements for licensure of medical products for human use.

Promising efforts identified through Applied Research conducted under Program Element (PE) 0602787A (Medical Technology) / Project MM4 (Cbt Casualty Care Applied Rsch Technology) are further matured under this Project. Promising results identified under this Project are further matured under PE 0603807A (Medical Systems Advanced Development) / Project 836 (Field Medical Systems Advanced Development).

The cited research is consistent with the Under Secretary of Defense (Research and Engineering) science and technology focus areas and the Army Modernization Strategy.

Research in this Project is performed by the United States Army Medical Research and Development Command (USAMRDC), Fort Detrick, MD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Next Generation Human-Derived Blood Replacement	9.275	-	-
Description: Develop, demonstrate in pre-clinical and early-clinical studies, and transition new blood products with increased shelf life and functionality including cold-stored platelets and biopharmaceutical technologies that stop life threatening bleeding, stabilize tissue metabolism, mitigate shock and restore normal blood clotting will improve prompt hemorrhage control and minimize sustainment requirements.			
Accomplishments/Planned Programs Subtotals	9.275	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603002A / *Medical Advanced Technology*	**Project (Number/Name)** MN5 / *Next Generation Blood Products Advanced Technology*

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*	Project (Number/Name) MN6 / *Blast & Head Impact Exposure Monitor Advanced Tech*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MN6: *Blast & Head Impact Exposure Monitor Advanced Tech*	-	1.490	1.168	-	-	-	-	-	-	-	0.000	2.658
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project will inform the development of technologies and strategies to detect and provide actionable information to unit leader/Soldier about hazardous exposure to blast and head impact. This capability will help prevent degradation to Soldier cognitive readiness and performance and enhance combat power.

The cited research is fully coordinated with Program Element (PE) 0602143A (Soldier Lethality Technology) and complimentary to PE 0603118A (Soldier Lethality Advanced Technology) and is fully coordinated with other Services in order to avoid duplication of effort.

The cited work is consistent with the Under Secretary of Defense (Research and Engineering) science and technology focus areas and the Army Modernization Strategy.

Research in this Project is performed by the United States Army Medical Research and Development Command (USAMRDC), Fort Detrick, MD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Injury Criteria for Informing the Development of New Tactical Head borne Systems.	1.490	1.125	-
Description: This effort validates injury risk assessment/guidance/criteria that will inform the development of technologies (i.e., personal protection equipment, vehicles) and strategies (i.e., health hazard assessments) to protect the Soldier against current and emerging operational threats (i.e., blast, blunt, ballistic, and accelerative). ***FY 2023 Plans:*** Funding and mission realigned as part of US Army Medical Research and Development Command transfer to the Defense Health Agency in order to meet Congressional intent as outlined in National Defense Authorization Act 2019 (Sections 711,737). Funding transferred to Program Element 0603115DHA, Project Code 373H. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease due to completion of work and delivery of transition in this project.			
Title: SBIR/STTR Transfer	-	0.043	-
FY 2023 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603002A / *Medical Advanced Technology*	**Project (Number/Name)** MN6 / *Blast & Head Impact Exposure Monitor Advanced Tech*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Funding transferred in accordance with Title 15 USC §638. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC §638.			
Accomplishments/Planned Programs Subtotals	1.490	1.168	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*	Project (Number/Name) MN7 / *Musculoskeletal Injury Screening Tool Adv Tech*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MN7: *Musculoskeletal Injury Screening Tool Adv Tech*	-	1.604	1.276	0.762	-	0.762	0.827	0.484	0.485	0.490	0.000	5.928
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project develops strategies and technologies to reduce musculoskeletal injury (MSKI) rates and improve outcomes following Return to Duty (RTD) in the Army training, operational, and medical communities to improve Soldier readiness.

The cited research is fully coordinated with Program Element (PE) 0602143A (Soldier Lethality Technology) and complimentary to PE 0603118A (Soldier Lethality Advanced Technology), and is fully coordinated with the Army Training and Doctrine Command (TRADOC) and other Services in order to avoid duplication of effort.

The cited work is consistent with the Under Secretary of Defense (Research and Engineering) science and technology focus areas and the Army Modernization Strategy.

Research in this Project is performed by the United States Army Medical Research and Development Command (USAMRDC), Fort Detrick, MD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Leader and Medical Provider Tools to Prevent and Reduce Musculoskeletal Injury in All Settings	1.029	1.229	0.762
Description: Project validates in field environment strategies and technologies to reduce MSKI rates and improve outcomes following RTD in the Army training, operational, and medical communities to improve Soldier readiness. ***FY 2023 Plans:*** Will validate and transition musculoskeletal injury risk guidelines to TRADOC-CIMT, complementary applied research efforts will be performed in Program Element 0602787A, Project MK4 (Leader Tools to Reduce Musculoskeletal Injury in All Settings). ***FY 2024 Plans:*** Will validate and transition next generation capabilities in musculoskeletal injury risk and performance degrading prediction tools. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decreased funding due to completion of studies related to reduction of stress fracture during basic training. Funding change reflects planned lifecycle of this effort.			
Title: Forward Neuro-Muscular Skeletal Injury Assessment to Reduce Unnecessary Evacuations	0.575	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603002A / *Medical Advanced Technology*	**Project (Number/Name)** MN7 / *Musculoskeletal Injury Screening Tool Adv Tech*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: This program will validate solutions to accurately assess the severity of acute, non-penetrating soft-tissue injuries in training and operational environments. This capability once transitioned will show proof of concept of a capability that will improve Soldier readiness and return to duty and limit unnecessary evacuations by accurately diagnosing and assessing musculoskeletal injury.			
Title: SBIR/STTR Transfer ***FY 2023 Plans:*** Funding transferred in accordance with Title 15 USC §638. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC §638.	-	0.047	-
Accomplishments/Planned Programs Subtotals	1.604	1.276	0.762

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*	Project (Number/Name) MN9 / *Far Forward Behavioral Health Care Advanced Tech*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MN9: *Far Forward Behavioral Health Care Advanced Tech*	-	0.273	-	-	-	-	-	-	-	-	0.000	0.273
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project will deliver a tested delivery system for behavioral health interventions oriented to far forward settings that will ensure the psychological readiness of Soldiers and safeguard their far forward readiness and performance in austere operating environments, under high intensity operational stressors.

The cited research is fully coordinated with Program Element (PE) 0602143A (Soldier Lethality Technology) and complimentary to PE 0603118A (Soldier Lethality Advanced Technology), and is fully coordinated with other Services in order to avoid duplication of effort.

The cited research is consistent with the Under Secretary of Defense (Research and Engineering) science and technology focus areas and the Army Modernization Strategy.

Research in this Project is performed by the United States Army Medical Research and Development Command (USAMRDC), Fort Detrick, MD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Far Forward Behavioral Health Care	0.273	-	-
Description: This effort will deliver a tested delivery system for behavioral health interventions oriented to far-forward settings that will ensure the psychological readiness of Soldiers and safeguard their far-forward readiness and performance in austere operating environments, under high intensity operational stressors.			
Accomplishments/Planned Programs Subtotals	0.273	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*	Project (Number/Name) MO2 / *Traumatic Brain Injury (TBI) Treatment Adv Tech*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MO2: *Traumatic Brain Injury (TBI) Treatment Adv Tech*	-	10.418	-	-	-	-	-	-	-	-	0.000	10.418
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Funding and mission in this project are realigned as part of US Army Medical Research and Development Command transfer to the Defense Health Agency in order to meet Congressional intent as outlined in NDAA 2019 (Section 711) and NDAA 2020 (Section 737). Funding transferred to Program Element 0603115DHA, Project Code 373H.

A. Mission Description and Budget Item Justification

This Project covers development, demonstration, transition of technologies for acute battlefield management of brain trauma, and maintains laboratory capability to perform these functions. Efforts include pre-clinical demonstration of drug therapy and resuscitation strategies for treatment of acute brain injury in the pre-hospital setting, biomarkers, diagnostics, and devices, as well as novel drug delivery technologies to facilitate administration of pharmaceuticals at or near the point of injury to protect the injured brain from further damage.

All research is conducted in compliance with Food and Drug Administration (FDA) requirements for licensure of medical products for human use.

Promising efforts identified through Applied Research conducted under Program element (PE) 0602787A (Medical Technology) / Project MM4 (Cbt Casualty Care Applied Rsch Technology) are further matured under this Project. Promising results identified under this Project are further matured under PE 0603807A (Medical Systems Advanced Development) / Project 836 (Field Medical Systems Advanced Development).

The cited research is consistent with the Under Secretary of Defense (Research and Engineering) science and technology focus areas and the Army Modernization Strategy.

Research in this Project is performed by the United States Army Medical Research Development Command (USAMRDC), Fort Detrick, MD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Drugs to Prevent and Treat Brain Injury (TBI) ***Description:*** Develop, demonstrate, and transition technologies to treat combat-related brain injury. Technologies include drugs administered at or near the point of injury to treat combat-related brain injury while also stabilizing and protecting non-injured brain tissues, and novel drug delivery platforms that specifically target injured brain cells.	10.418	-	-
Accomplishments/Planned Programs Subtotals	10.418	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603002A / *Medical Advanced Technology*	**Project (Number/Name)** MO2 / *Traumatic Brain Injury (TBI) Treatment Adv Tech*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army												Date: March 2023
Appropriation/Budget Activity 2040 / 3					R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*				Project (Number/Name) MO4 / *Burn Recovery Optimization Advanced Technology*			
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
MO4: *Burn Recovery Optimization Advanced Technology*	-	2.035	-	-	-	-	-	-	-	-	0.000	2.035
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Funding and mission in this project are realigned as part of US Army Medical Research and Development Command transfer to the Defense Health Agency in order to meet Congressional intent as outlined in NDAA 2019 (Section 711) and NDAA 2020 (Section 737). Funding transferred to Program Element 0603115DHA, Project Code 373H.

A. Mission Description and Budget Item Justification

This Project covers technology development, demonstration, and transition of burn recovery optimization technologies, including diagnostic technology to predict skin graft success or failure, technologies to measure and predict burn wound healing rate and assess burn treatment effectiveness, and novel dressings that protect severe burn wounds from further injury and prevent inflammation and infection until definitive surgical burn care is available.

All research is conducted in compliance with Food and Drug Administration (FDA) requirements for licensure of medical products for human use.

Promising efforts identified through Applied Research conducted under Program Element (PE) 0602787A (Medical Technology) / Project MM4 (Cbt Casualty Care Applied Rsch Technology) are further matured under this Project. Promising results identified under this Project are further matured under PE 0603807A (Medical Systems Advanced Development) / Project 836 (Field Medical Systems Advanced Development).

The cited research is consistent with the Under Secretary of Defense (Research and Engineering) science and technology focus areas and the Army Modernization Strategy.

Research in this Project is performed by the United States Army Medical Research Development Command (USAMRDC), Fort Detrick, MD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Rapid Burn Injury Treatment and Return to Duty Capability Set 1	2.035	-	-
Description: Mature, demonstrate, and transition burn recovery optimization technologies. These include diagnostic technology to predict skin graft success or failure, and advanced dressings that contain anti-infective and anti-inflammatory agents for prehospital use to protect severe burn wounds from further injury, infection and inflammation for prolonged periods until definitive surgical wound care is provided.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603002A / *Medical Advanced Technology*	**Project (Number/Name)** MO4 / *Burn Recovery Optimization Advanced Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Accomplishments/Planned Programs Subtotals	2.035	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*	Project (Number/Name) MO7 / *Improved Bone Repair Advanced Technology*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MO7: *Improved Bone Repair Advanced Technology*	-	1.050	-	-	-	-	-	-	-	-	0.000	1.050
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Funding and mission in this project are realigned as part of US Army Medical Research and Development Command transfer to the Defense Health Agency in order to meet Congressional intent as outlined in NDAA 2019 (Section 711) and NDAA 2020 (Section 737). Funding transferred to Program Element 0603115DHA, Project Code 373H.

A. Mission Description and Budget Item Justification

This Project matures, demonstrates, and validates promising medical technologies and new clinical practices to improve outcomes following severe limb injuries involving complex bone fractures and injured surrounding soft tissues.

All research is conducted in compliance with Food and Drug Administration (FDA) requirements for licensure of medical products for human use.

Promising efforts identified through Applied Research conducted under Program Element (PE) 0602787A (Medical Technology), Project MM4 (Cbt Casualty Care Applied Rsch Technology), are further matured under this Project. Promising results identified under this Project are further matured under PE 0603807A (Medical Systems Advanced Development), Project 836 (Field Medical Systems Advanced Development).

The cited research is consistent with the Under Secretary of Defense (Research and Engineering) science and technology focus areas and the Army Modernization Strategy.

Research in this Project is performed by the United States Army Medical Research and Development Command (USAMRDC), Fort Detrick, MD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Field Stabilization of Bone in Preparation for Evac	0.554	-	-
Description: Maturation, demonstration, and transition of technologies that improve outcomes, mobility, and return to duty following severe limb injuries involving complex bone fractures and injured soft tissues in casualties treated under multi-domain operations conditions.			
Title: Limb Function Repair and Return to Combat Duty	0.496	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603002A / *Medical Advanced Technology*	**Project (Number/Name)** MO7 / *Improved Bone Repair Advanced Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Maturation, demonstration, and transition of technologies that improve outcomes, and return to duty following severe limb injuries involving complex bone fractures and injured soft tissues.			
Accomplishments/Planned Programs Subtotals	1.050	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*	Project (Number/Name) MO8 / *Expeditionary Performance Nutrition Advanced Techn*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MO8: *Expeditionary Performance Nutrition Advanced Techn*	-	1.929	0.175	0.731	-	0.731	0.164	0.164	0.164	0.166	0.000	3.493
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project covers the development of real-time, specific, and individualized interventions to optimize mental acuity and fatigue and manage metabolic and nutritional needs to sustain Soldier physical, mental, and immunological performance.

The cited research is fully coordinated with Program element (PE) 0602143A (Soldier Lethality Technology) and complimentary to PE 0603118A (Soldier Lethality Advanced Technology), and is fully coordinated with other Services in order to avoid duplication of effort.

The cited research is consistent with the Under Secretary of Defense (Research and Engineering) science and technology focus areas and the Army Modernization Strategy.

Research in this Project is performed by the United States Army Medical Research and Development Command (USAMRDC), Fort Detrick, MD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Medical Strategies to Sustain Soldier Alertness and Performance in All Settings	1.929	0.169	0.731
Description: Develop real-time, specific, and individualized interventions to optimize mental acuity and fatigue and manage metabolic and nutritional needs to sustain Soldier physical, mental, and immunological performance.			
FY 2023 Plans: Develop evidence-based recommendations for nutritional interventions in Soldiers undergoing strenuous, high OPTEMPO, dispersed and disaggregated operations to reduce physical, cognitive and psychological degradation and provide overmatch capability.			
FY 2024 Plans: Develop and manage metabolic and nutritional needs to sustain Soldier physical, mental, and immunological performance in response to all Settings.			
FY 2023 to FY 2024 Increase/Decrease Statement:			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603002A / *Medical Advanced Technology*	**Project (Number/Name)** MO8 / *Expeditionary Performance Nutrition Advanced Techn*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Funding change reflects planned lifecycle of this effort.			
Title: SBIR/STTR Transfer	-	0.006	-
FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638.			
FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638.			
Accomplishments/Planned Programs Subtotals	1.929	0.175	0.731

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603002A / *Medical Advanced Technology*	Project (Number/Name) MP3 / *Phys Chem Toxicity Assessment Sys Adv Tech*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MP3: *Phys Chem Toxicity Assessment Sys Adv Tech*	-	2.208	1.839	1.798	-	1.798	1.079	0.357	0.357	0.361	0.000	7.999
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project covers the development of products and solutions that will protect and prevent degradation of Soldier health, readiness and performance from environmental stressors (heat, cold, altitude, and chemical toxicants) while conducting prolonged operations in Multi-Domain Operations (MDO). Develop algorithms and physiological models to inform unit leaders and Soldiers and provide actionable information and interventions to manage metabolic needs, maintain performance, and avoid non-battle injuries while operating in extreme environments.

This Project contains no duplication with any effort within the Military Departments and includes direct participation by other Services. The cited research is fully coordinated with Program Element (PE) 0602143A (Soldier Lethality Technology) and complimentary to PE 0603118A (Soldier Lethality Advanced Technology).

The cited research is consistent with the Under Secretary of Defense, Research and Engineering Science and Technology, focus areas and the Army Modernization Strategy.

Research in this Project is performed by the United States Army Medical Research and Development Command (USAMRDC), Fort Detrick, MD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Solutions to Sustain Warfighter Performance in Extreme Environments	2.208	1.772	1.798
Description: Protect and prevent degradation of Soldier health, readiness and performance from environmental stressors (heat, cold, altitude, chemical toxicants) while conducting prolonged operations in the MDO. Develop algorithms and physiological models to inform unit leaders and Soldiers and provide actionable information and interventions to manage metabolic needs, maintain performance, and avoid non-battle injuries while operating in extreme environments.			
FY 2023 Plans: Will provide validated tools to sustain lethality and optimize performance and to prevent injuries related to multi-environmental stressors; optimize capability to improve performance and thermal comfort in hot environments using innovative cooling technology; deliver to advanced development mature and validated algorithms for exertional heat injury, acute mountain sickness, and cold-weather clothing selection; begin validation of method for cold habituation to improve cold tolerance and comfort and			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603002A / *Medical Advanced Technology*	**Project (Number/Name)** MP3 / *Phys Chem Toxicity Assessment Sys Adv Tech*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
reduce frostbite when operating in arctic conditions; and conduct field validation and acceptability of novel physiological status monitoring (PSM) compression shirts. ***FY 2024 Plans:*** Will provide validated tools to sustain lethality and optimize performance and to prevent injuries related to multi-environmental stressors; complete validation of method for cold habituation to improve cold tolerance and comfort and reduce frostbite when operating in arctic conditions; and conduct field validation and acceptability of novel physiological status monitoring (PSM) compression shirts. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding change reflects planned life cycle of this effort.			
Title: SBIR/STTR Transfer ***FY 2023 Plans:*** Funding transferred in accordance with Title 15 USC §638. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC §638.	-	0.067	-
Accomplishments/Planned Programs Subtotals	2.208	1.839	1.798

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A