Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Defense Health Agency											Date: February 2018	
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 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Cost To Complete**	**Total Cost**
Total Program Element	13.840	3.806	2.879	3.687	-	3.687	4.013	4.093	4.175	4.259	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)*	1.687	0.522	0.421	0.480	-	0.480	0.490	0.500	0.510	0.520	Continuing	Continuing
240B: *Military Operational Medicine (USUHS)*	5.176	1.547	1.251	1.479	-	1.479	1.509	1.539	1.570	1.602	Continuing	Continuing
240C: *Combat Casualty Care (USUHS)*	5.662	1.487	1.207	1.728	-	1.728	2.014	2.054	2.095	2.137	Continuing	Continuing
468: *Metabolomics, Exposure Biomarkers, and Health Outcomes*	-	0.250	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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Defense Health Agency					Date: February 2018
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)*			
B. Program Change Summary ($ in Millions)	**FY 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**
Previous President's Budget	2.653	2.879	3.687	-	3.687
Current President's Budget	3.806	2.879	3.687	-	3.687
Total Adjustments	1.153	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.000	-			
• SBIR/STTR Transfer	-0.097	-			
• Metabolomics, Exposure Biomarkers, and Health Outcomes	0.250	-	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2017	FY 2018
Project: 468: *Metabolomics, Exposure Biomarkers, and Health Outcomes*		
Congressional Add: *Metabolomics, Exposure Biomarkers, and Health Outcomes*	0.250	0.000
Congressional Add Subtotals for Project: 468	0.250	0.000
Congressional Add Totals for all Projects	0.250	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Health Agency			Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	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

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Health Agency			Date: February 2018
Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0601101DHA / *In-House Laboratory Independent Research (ILIR)*	Project (Number/Name) 240A / *Infectious Disease (USUHS)*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
240A: *Infectious Disease (USUHS)*	1.687	0.522	0.421	0.480	-	0.480	0.490	0.500	0.510	0.520	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)	FY 2017	FY 2018	FY 2019
Title: Infectious Disease	0.522	0.421	0.480
Description: 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).			
FY 2018 Plans: Efforts will be focused within the Infectious Disease research area. Two to three peer reviewed investigator-initiated projects will be funded for multiple years.			
FY 2019 Plans: Efforts will continue within the Infectious Disease research area in FY 2019. Specific investigator-initiated projects compete for funding each year, usually with two to three-year project periods. Therefore, no detailed description of the research is possible at this time.			
FY 2018 to FY 2019 Increase/Decrease Statement:			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Health Agency		Date: February 2018
Appropriation/Budget Activity 0130 / 2	**R-1 Program Element (Number/Name)** PE 0601101DHA / *In-House Laboratory Independent Research (ILIR)*	**Project (Number/Name)** 240A / *Infectious Disease (USUHS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Pricing adjustment.			
Accomplishments/Planned Programs Subtotals	0.522	0.421	0.480

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Health Agency			Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
240B: *Military Operational Medicine (USUHS)*	5.176	1.547	1.251	1.479	-	1.479	1.509	1.539	1.570	1.602	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)	FY 2017	FY 2018	FY 2019
Title: Military Operational Medicine	1.547	1.251	1.479
Description: 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. ***FY 2018 Plans:*** Efforts will be focused within the Military Operational Medicine research area. Two to three peer reviewed investigator-initiated projects will be funded for multiple years. ***FY 2019 Plans:*** Efforts will continue within the Military Operational Medicine research area in FY 2019. Specific investigator-initiated projects compete for funding each year, usually with two to three-year project periods. Therefore, no detailed description of the research is possible at this time. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Pricing adjustment.			
Accomplishments/Planned Programs Subtotals	1.547	1.251	1.479

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Health Agency		Date: February 2018
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)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Health Agency			Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
240C: *Combat Casualty Care (USUHS)*	5.662	1.487	1.207	1.728	-	1.728	2.014	2.054	2.095	2.137	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)	FY 2017	FY 2018	FY 2019
Title: Combat Casualty Care	1.487	1.207	1.728
Description: Regenerative medicine, rehabilitation, neurological, limb loss, pain management, readiness, resilience ***FY 2018 Plans:*** Efforts will be focused within the Combat Casualty Care research area. Two to three peer reviewed investigator-initiated projects will be funded for multiple years. ***FY 2019 Plans:*** Efforts will continue within the Combat Casualty Care research area in FY 2019. Specific investigator-initiated projects compete for funding each year, usually with two to three-year project periods. Therefore, no detailed description of the research is possible at this time. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Pricing adjustment.			
Accomplishments/Planned Programs Subtotals	1.487	1.207	1.728

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Health Agency		Date: February 2018
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)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Health Agency			Date: February 2018
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*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
468: *Metabolomics, Exposure Biomarkers, and Health Outcomes*	-	0.250	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)	FY 2017	FY 2018
Congressional Add: Metabolomics, Exposure Biomarkers, and Health Outcomes	0.250	0.000
FY 2017 Accomplishments: This funding was received in the second year of the appropriation, therefore, accomplishments have not yet been identified.		
FY 2018 Plans: None.		
Congressional Adds Subtotals	0.250	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 2019 Defense Health Agency		Date: February 2018
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*

E. Performance Metrics

N/A