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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy **Date:** February 2018

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604771N / <i>Medical Development</i>
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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	139.490	24.510	9.353	8.095	-	8.095	8.214	9.067	9.291	9.520	Continuing	Continuing
0000: <i>UNDIST</i>	0.000	6.208	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6.208
0933: <i>Medical/Dental Equipment Dev</i>	22.664	2.812	9.353	8.095	-	8.095	8.214	9.067	9.291	9.520	Continuing	Continuing
2896: <i>Military Dental Research</i>	0.000	0.015	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.015
9999: <i>Congressional Adds</i>	116.826	15.475	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	132.301

A. Mission Description and Budget Item Justification

The purpose of this program is to develop biomedical equipment and related techniques to reduce morbidity; to enhance the logistic feasibility of modern medical care for combat casualties; to sustain casualties for evacuation to fixed medical facilities for definitive care; and to ensure that personnel are medically qualified for military duty. Each work unit undertaken in this project has a military requirement. Efforts are justified based upon military payoff and cost benefit. There is a strong potential for dual use, technology transfer, and biotechnology firm/industry participation in the projects.

B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	9.221	9.353	9.613	-	9.613
Current President's Budget	24.510	9.353	8.095	-	8.095
Total Adjustments	15.289	0.000	-1.518	-	-1.518
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.710	0.000			
• Program Adjustments	-0.001	0.000	-1.160	-	-1.160
• Rate/Misc Adjustments	0.000	0.000	-0.358	-	-0.358
• Congressional Add Adjustments	16.000	-	-	-	-

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Military Dental Research*

FY 2017	FY 2018
5.803	0.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy		Date: February 2018	
Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>		R-1 Program Element (Number/Name) PE 0604771N / <i>Medical Development</i>	
Congressional Add Details (\$ in Millions, and Includes General Reductions)		FY 2017	FY 2018
Congressional Add: <i>Wound Care Research (transferred from Defense Health Program)</i>		9.672	0.000
Congressional Add Subtotals for Project: 9999		15.475	0.000
Congressional Add Totals for all Projects		15.475	0.000
Change Summary Explanation The funding decrease in FY19 reflects a slower development of projects.			

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy										Date: February 2018		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604771N / Medical Development				Project (Number/Name) 0000 / UNDIST			
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
0000: UNDIST	0.000	6.208	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6.208
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

The FY 17 funding reflected in this project is erroneous due to a database error. This funding should be reflected in Project 0933.

A. Mission Description and Budget Item Justification

The purpose of this program is to develop biomedical equipment and related techniques to reduce morbidity; to enhance the logistic feasibility of modern medical care for combat casualties; to sustain casualties for evacuation to fixed medical facilities for definitive care; and to ensure that personnel are medically qualified for military duty. Each work unit undertaken in this project has a military requirement. Efforts are justified based upon military payoff and cost benefit. There is a strong potential for dual use, technology transfer, and biotechnology firms/industry participation in the projects.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Medical/Dental Equipment Development	6.208	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2018 Plans: N/A					
FY 2019 Base Plans: N/A					
FY 2019 OCO Plans: N/A					
FY 2018 to FY 2019 Increase/Decrease Statement: N/A					
Accomplishments/Planned Programs Subtotals	6.208	0.000	0.000	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604771N / <i>Medical Development</i>	Project (Number/Name) 0000 / <i>UNDIST</i>
<p>D. Acquisition Strategy</p> <p>The major Product Areas in the Medical Development Program are: 1) Equipment, 2) Pharmaceuticals/Biologics, and 3) Operational Knowledge/Concepts. The primary Program Areas of Interest are in: 1) Naval Expeditionary Health Services Support (Navy in Terrestrial, Maritime Surface, Submarine, and Aviation Operations), 2) USMC in Expeditionary Operations, and 3) Products for battlefield treatment and en route care of Combat Casualties and Combat Trauma, focusing on delivery of care within the seabase and the littoral environment.</p> <p>For Product Areas 1 and 2, there are two primary acquisition strategies. The first is to test and evaluate for Naval application commercially-developed medical product or candidates in managed trials with the ultimate goal of Food and Drug Administration (FDA) approval. Partnerships with commercial developers promotes developing products of military interest for procurement by the Operating Forces. A second benefit of this strategy is that products are made available across the DoD, Federal Government, and commercial market, thus reducing overall procurement costs. During development, DoD end users are included in the process to the extent possible. The second strategy is to drive a collaborative development process with larger DoD program investments. Navy and Marine Corps needs can be met at lower service cost. This process involves developing in-house or industrial prototypes in government- managed programs to meet Naval needs while meeting regulatory requirements for production and fielding. Both tactics promote development of procurement plans that align product availability with Service integration strategies.</p> <p>The Third Product Area (Knowledge/Concepts) is focused on the introduction of technologies, techniques, and procedures that enhance medical practice and standards of care for effective delivery of health care and casualty care in the Naval operating environment. These primarily require early involvement of the senior leadership of military medicine, in that the end product of the program is modification of concepts of operations, policy, and/or doctrine. These acquisitions can impact the care and performance of Sailors and Marines. Medical Development Program examples include Navy Crew Endurance Handbook and associated implementation tools.</p> <p>E. Performance Metrics</p> <p>Successful completion of Milestones/Demonstration Events for individualized project/product roadmap, on time and on budget. Ensuring dependencies across multiple efforts are maintained on schedule are primary metrics.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604771N / Medical Development				Project (Number/Name) 0000 / UNDIST					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Malaria Vaccine	SS/CR	Sanaria Inc. : Rockville, MD	0.000	3.815	Sep 2017	0.000		0.000		-		0.000	0.000	3.815	-
Malaria Vaccine	C/FFP	Various : Not Specified	0.000	0.057	Aug 2017	0.000		0.000		-		0.000	0.000	0.057	-
Individualized Fatigue Based Scheduling	SS/FFP	Pulsar Informatics : Philadelphia, PA	0.000	0.078	Jun 2017	0.000		0.000		-		0.000	0.000	0.078	-
Human Factors Individualized Fatigue Based Scheduling	Allot	Naval Submarine Medical Research Laboratory : Groton, CT	0.000	0.315	Nov 2016	0.000		0.000		-		0.000	0.000	0.315	-
Fatigue Based Scheduling	WR	Naval Post Graduate School : Monterey, CA	0.000	0.205	Dec 2016	0.000		0.000		-		0.000	0.000	0.205	-
Support of Naval Expeditionary Health Service Support (NEHSS) Modernization	Various	Various : Not Specified	0.000	0.060	Jan 2017	0.000		0.000		-		0.000	0.000	0.060	-
Future capabilities products & technologies: Management of Moderate to Severe Hemorrhage	Various	Various : Not Specified	0.000	0.358	Feb 2017	0.000		0.000		-		0.000	0.000	0.358	-
Marine Corps Systems Command Medical Products and Equipment	Various	Various : Not Specified	0.000	0.112	Jun 2017	0.000		0.000		-		0.000	0.000	0.112	-
Phage Therapy	Allot	Naval Medical Research Center : Silver Spring, MD	0.000	0.630	Jun 2017	0.000		0.000		-		0.000	0.000	0.630	-
Mitigation of Adverse Physiological Episodes	Allot	Naval Medical Research Unit : Dayton, OH	0.000	0.578	Sep 2017	0.000		0.000		-		0.000	0.000	0.578	-
Subtotal			0.000	6.208		0.000		0.000		-		0.000	0.000	6.208	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy											Date: February 2018				
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604771N / Medical Development				Project (Number/Name) 0000 / UNDIST						
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	6.208		0.000		0.000		-		0.000	0.000	6.208	N/A

Remarks

The FY2017 funding that is reflected in 0000 is erroneous due to a database error and should be reflected in project 0933.

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PE 0604771N: *Medical Development*
Navy

R-1 Line #153

[illegible]

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604771N / <i>Medical Development</i>	Project (Number/Name) 0000 / <i>UNDIST</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 0000</i>				
Preventive Medicine: Malaria Vaccine (Partner Leveraged): System Development	1	2017	4	2019
Preventive Medicine: Malaria Vaccine (Partner Leveraged): Validation of Manufacturing Scale Up	3	2017	4	2019
Patient Movement/Casualty Management: Novel Phage Therapeutics: System Development	3	2017	1	2019

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy										Date: February 2018		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604771N / Medical Development				Project (Number/Name) 0933 / Medical/Dental Equipment Dev			
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
0933: Medical/Dental Equipment Dev	22.664	2.812	9.353	8.095	-	8.095	8.214	9.067	9.291	9.520	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Note The FY 2017 funding that is reflected in projects 0000 and 2896 is erroneous due to a database error and should be reflected under this project.												
A. Mission Description and Budget Item Justification The purpose of this program is to develop biomedical equipment and related techniques to reduce morbidity; to enhance the logistic feasibility of modern medical care for combat casualties; to sustain casualties for evacuation to fixed medical facilities for definitive care; and to ensure that personnel are medically qualified for military duty. Each work unit undertaken in this project has a military requirement. Efforts are justified based upon military payoff and cost benefit. There is a strong potential for dual use, technology transfer, and biotechnology firms/industry participation in the projects.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Medical/Dental Equipment Development Articles: FY 2018 Plans: -Continue system development and validation of manufacturing support for military relevant Malaria vaccine regimen production scale up. -Continue validation of Individual Fatigue-Based Scheduling and Countermeasure System that predicts, prevents, detects, and mitigates periods of high risk associated with fatigue. Individualized performance risk will be predicted and prevented by providing individual fatigue optimized schedules and mitigation strategies. -Continue fatigue mitigation and validation of scheduling tools to include validation of an alternative watchstanding schedule on Naval Surface Combatants. -Continue development of transitioned future capability products and technologies. Complete transition of technologies for management of moderate to severe hemorrhage. -Complete Naval Expeditionary Health Service Support: Effects of High Deck Accelerations on Surgical Tasks at Sea - Phase III Study. -Continue joint development projects with MARCORSYSCOM acquisition for medical products and equipment. -Continue to support phage therapy to combat antibiotic resistant bacterial infections. -Continue support for mitigating adverse physiological episodes to enhance safety and warfighter readiness in tactical aircraft.								2.812	9.353	8.095	0.000	8.095
								-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy				Date: February 2018	
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604771N / <i>Medical Development</i>		Project (Number/Name) 0933 / <i>Medical/Dental Equipment Dev</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
<p>-Initiate Human Performance/Crew Endurance effort: Enhancing Decision-Making under Stress.</p> <p>-Initiate Human Performance/Crew Endurance effort: Controlled Light Exposure and Fatigue Mitigation.</p> <p>-Initiate innovative medical technologies; enhanced medical logistics. Primary focus includes: 1) Enhancing casualty treatment capabilities while reducing the overall logistics burden; 2) Enhancing medical logistics capability; and 3) Continue Enroute care, patient transport and trauma care systems associated with the time distance continuum in a sea base environment.</p> <p><i>FY 2019 Base Plans:</i></p> <p>-Complete system development and validation of manufacturing support for military relevant Malaria vaccine regimen production scale up.</p> <p>-Complete validation of Individual Fatigue-Based Scheduling and Countermeasure System that predicts, prevents, detects, and mitigates periods of high risk associated with fatigue.</p> <p>-Complete fatigue mitigation and validation of scheduling tools to include validation of an alternative watchstanding schedule on Naval Surface Combatants.</p> <p>-Continue joint development projects with MARCORSYSCOM acquisition for medical products and equipment.</p> <p>-Complete support for phage therapy to combat antibiotic resistant bacterial infections.</p> <p>-Complete support for mitigating adverse physiological episodes to enhance safety and warfighter readiness in tactical aircraft.</p> <p>-Complete Human Performance/Crew Endurance effort: Enhancing Decision-Making under Stress.</p> <p>-Continue Human Performance/Crew Endurance effort: Controlled Light Exposure and Fatigue Mitigation.</p> <p>-Continue innovative medical technologies; enhanced medical logistics. Primary focus includes: 1) Enhancing casualty treatment capabilities while reducing the overall logistics burden; 2) Enhancing medical logistics capability; and 3) Continue Enroute care, patient transport and trauma care systems associated with the time distance continuum in a sea base environment.</p> <p><i>FY 2019 OCO Plans:</i></p> <p>None</p> <p><i>FY 2018 to FY 2019 Increase/Decrease Statement:</i></p> <p>The FY 2019 funding request was reduced by -\$0.105 million to account for the availability of prior year execution balances, which will result in a slower development of projects.</p>					
Accomplishments/Planned Programs Subtotals	2.812	9.353	8.095	0.000	8.095
C. Other Program Funding Summary (\$ in Millions)					
N/A					

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604771N / Medical Development	Project (Number/Name) 0933 / Medical/Dental Equipment Dev
C. Other Program Funding Summary (\$ in Millions) Remarks D. Acquisition Strategy <p>The acquisition strategy for product lines and products in the Medical Development Program is designed and implemented consistent with the purpose of the particular product and with the nature and size of the investment. The Medical Development Program has a Memorandum of Agreement with the Marine Corps Systems Command (Family of Field Medical Equipment) for co-development of products for procurement by the USMC. The acquisition strategy for products involves direct partnership with the acquisition and procurement professionals at Marine Corps Systems Command.</p> <p>The major Product Areas in the Medical Development Program are: 1) Equipment, 2) Pharmaceuticals/Biologics, and 3) Operational Knowledge/Concepts. The primary Program Areas of Interest are in: 1) Naval Expeditionary Health Services Support (Navy in Terrestrial, Maritime Surface, Submarine, and Aviation Operations), 2) USMC in Expeditionary Operations, and 3) Products for battlefield treatment and en route care of Combat Casualties and Combat Trauma, focusing on delivery of care within the seabase and the littoral environment.</p> <p>For Product Areas 1 and 2, there are two primary acquisition strategies. The first is to test and evaluate for Naval application commercially-developed medical product or candidates in managed trials with the ultimate goal of Food and Drug Administration (FDA) approval. Partnerships with commercial developers promotes developing products of military interest for procurement by the Operating Forces. A second benefit of this strategy is that products are made available across the DoD, Federal Government, and commercial market, thus reducing overall procurement costs. During development, DoD end users are included in the process to the extent possible. The second strategy is to drive a collaborative development process with larger DoD program investments. Navy and Marine Corps needs can be met at lower service cost. This process involves developing in-house or industrial prototypes in government-managed programs to meet Naval needs while meeting regulatory requirements for production and fielding. Both tactics promote development of procurement plans that align product availability with Service integration strategies.</p> <p>The Third Product Area (Knowledge/Concepts) is focused on the introduction of technologies, techniques, and procedures that enhance medical practice and standards of care for effective delivery of health care and casualty care in the Naval operating environment. These primarily require early involvement of the senior leadership of military medicine, in that the end product of the program is modification of concepts of operations, policy, and/or doctrine. These acquisitions can impact the care and performance of Sailors and Marines. Medical Development Program examples include Navy Crew Endurance Handbook and associated implementation tools.</p> E. Performance Metrics <p>Successful completion of Milestones/Demonstration Events for individualized project/product roadmap, on time and on budget. Ensuring dependencies across multiple efforts are maintained on schedule are primary metrics.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604771N / Medical Development				Project (Number/Name) 0933 / Medical/Dental Equipment Dev					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Malaria Vaccine	SS/CR	Sanaria, Inc. : Rockville, MD	5.984	1.100	Jan 2018	0.000		0.000		-		0.000	0.000	7.084	Continuing
Malaria Vaccine	C/FFP	Various : Not Specified	0.105	0.028	Dec 2017	0.000		0.000		-		0.000	0.000	0.133	Continuing
Individualized Fatigue Based Scheduling	SS/FP	Pulsar Informatics : Philadelphia, PA	5.810	0.030	Jun 2017	0.550	Mar 2018	0.000		-		0.000	0.000	6.390	-
Human Factors Individualized Fatigue Based Scheduling	Allot	Naval Submarine Medical Research Laboratory : Groton, CT	1.541	0.100	Nov 2016	0.425	Jan 2018	0.430	Dec 2018	-		0.430	Continuing	Continuing	Continuing
Fatigue Based Scheduling	WR	Naval Post Graduate School : Monterey, CA	1.149	0.175	Dec 2016	0.390	Dec 2017	0.000		-		0.000	0.000	1.714	-
Support of Naval Expeditionary Health Service Support (NEHSS) Modernization	Various	Various : Not Specified	0.955	0.053	Jan 2017	0.000		0.000		-		0.000	0.000	1.008	Continuing
Future capabilities products & technologies: Management of Moderate to Severe Hemorrhage	Various	Various : Not Specified	0.490	0.169	Feb 2017	0.000		0.000		-		0.000	0.000	0.659	Continuing
Marine Corps Systems Command Medical Products and Equipment	Various	Various : Not Specified	0.274	0.100	Jun 2017	0.750	May 2018	0.800	Mar 2019	-		0.800	Continuing	Continuing	Continuing
Phage Therapy	Allot	Naval Med Rsrch. Cntr./Walter Reed Inst. of Rsrch. : Silver Spring, MD	0.000	0.532	Jun 2017	0.346	Dec 2017	0.000		-		0.000	0.000	0.878	Continuing
Mitigation of Adverse Physiological Episodes in Tactical Aircraft	Allot	Various : Not Specified	0.000	0.272	Sep 2017	0.995	Dec 2017	0.000		-		0.000	0.000	1.267	Continuing
Enhanced Decision Making Under Stress	Allot	Naval Health Research Center : San Diego, CA	0.000	0.000		0.397	Dec 2017	0.000		-		0.000	0.000	0.397	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604771N / Medical Development				Project (Number/Name) 0933 / Medical/Dental Equipment Dev					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Crew Endurance and Fatigue Mitigation	WR	Naval Post Graduate Schoo : Monterey, CA	0.000	0.000		0.750	Jan 2018	0.750	Dec 2018	-		0.750	Continuing	Continuing	Continuing
Innovative Medical Technologies and Logistics	Various	Various : Not Specified	0.000	0.000		2.899	May 2018	4.275	May 2019	-		4.275	Continuing	Continuing	Continuing
Medical Product Development	Various	Various : Not Specified	5.586	0.000	Aug 2017	0.977	Aug 2018	0.966	Aug 2019	-		0.966	Continuing	Continuing	Continuing
Subtotal			21.894	2.559		8.479		7.221		-		7.221	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	Various	Various : Not Specified	0.770	0.253	Aug 2017	0.874	Aug 2018	0.874	Aug 2019	-		0.874	Continuing	Continuing	Continuing
Subtotal			0.770	0.253		0.874		0.874		-		0.874	Continuing	Continuing	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			22.664	2.812		9.353		8.095		-		8.095	Continuing	Continuing	N/A
Remarks															
The FY 2019 funding request was reduced by -\$0.105 million to account for the availability of prior year execution balances.															

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy

Date: February 2018

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604771N / *Medical Development*

Project (Number/Name)

0933 / *Medical/Dental Equipment Dev*

Proj 0933	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Preventive Medicine: Malaria Vaccine (Partner Leveraged)																												
	System Development																											
			Validation of Manufacturing Scale Up																									
Patient Movement/Casualty Management: Novel Phage Therapeutics																												
			System Development																									
					Validation of Manufacturing Scale Up																							
Innovative Medical Technologies/Enhanced Medical Logistics: Next Generation Logistics																												
							Evaluate Medical Logistics Technology																					

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604771N / <i>Medical Development</i>	Project (Number/Name) 0933 / <i>Medical/Dental Equipment Dev</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 0933</i>				
Preventive Medicine: Malaria Vaccine (Partner Leveraged): System Development	1	2017	4	2019
Preventive Medicine: Malaria Vaccine (Partner Leveraged): Validation of Manufacturing Scale Up	3	2017	4	2019
Patient Movement/Casualty Management: Novel Phage Therapeutics: System Development	3	2017	1	2019
Patient Movement/Casualty Management: Novel Phage Therapeutics: Validation of Manufacturing Scale Up	1	2018	1	2019
Innovative Medical Technologies/Enhanced Medical Logistics: Next Generation Logistics: Evaluate Medical Logistics Technology	3	2018	4	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy										Date: February 2018		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604771N / <i>Medical Development</i>				Project (Number/Name) 2896 / <i>Military Dental Research</i>			
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
2896: <i>Military Dental Research</i>	0.000	0.015	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.015
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note
The FY 17 funding reflected in this project is erroneous due to a database error. This funding should be reflected in Project 0933.

A. Mission Description and Budget Item Justification
The purpose of this program is to develop biomedical equipment and related techniques to reduce morbidity; to enhance the logistic feasibility of modern medical care for combat casualties; to sustain casualties for evacuation to fixed medical facilities for definitive care; and to ensure that personnel are medically qualified for military duty. Each work unit undertaken in this project has a military requirement. Efforts are justified based upon military payoff and cost benefit. There is a strong potential for dual use, technology transfer, and biotechnology firm/industry participation in the projects.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Medical/Dental Equipment Development	0.015	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2018 Plans: N/A					
FY 2019 Base Plans: N/A					
FY 2019 OCO Plans: N/A					
FY 2018 to FY 2019 Increase/Decrease Statement: N/A					
Accomplishments/Planned Programs Subtotals	0.015	0.000	0.000	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604771N / <i>Medical Development</i>	Project (Number/Name) 2896 / <i>Military Dental Research</i>
<p><u>D. Acquisition Strategy</u></p> <p>The major Product Areas in the Medical Development Program are: 1) Equipment, 2) Pharmaceuticals/Biologics, and 3) Operational Knowledge/Concepts. The primary Program Areas of Interest are in: 1) Naval Expeditionary Health Services Support (Navy in Terrestrial, Maritime Surface, Submarine, and Aviation Operations), 2) USMC in Expeditionary Operations, and 3) Products for battlefield treatment and en route care of Combat Casualties and Combat Trauma, focusing on delivery of care within the seabase and the littoral environment.</p> <p>For Product Areas 1 and 2, there are two primary acquisition strategies. The first is to test and evaluate for Naval application commercially-developed medical product or candidates in managed trials with the ultimate goal of Food and Drug Administration (FDA) approval. Partnerships with commercial developers promotes developing products of military interest for procurement by the Operating Forces. A second benefit of this strategy is that products are made available across the DoD, Federal Government, and commercial market, thus reducing overall procurement costs. During development, DoD end users are included in the process to the extent possible. The second strategy is to drive a collaborative development process with larger DoD program investments. Navy and Marine Corps needs can be met at lower service cost. This process involves developing in-house or industrial prototypes in government- managed programs to meet Naval needs while meeting regulatory requirements for production and fielding. Both tactics promote development of procurement plans that align product availability with Service integration strategies.</p> <p>The Third Product Area (Knowledge/Concepts) is focused on the introduction of technologies, techniques, and procedures that enhance medical practice and standards of care for effective delivery of health care and casualty care in the Naval operating environment. These primarily require early involvement of the senior leadership of military medicine, in that the end product of the program is modification of concepts of operations, policy, and/or doctrine. These acquisitions can impact the care and performance of Sailors and Marines. Medical Development Program examples include Navy Crew Endurance Handbook and associated implementation tools.</p> <p><u>E. Performance Metrics</u></p> <p>Successful completion of Milestones/Demonstration Events for individualized project/product roadmap, on time and on budget. Ensuring dependencies across multiple efforts are maintained on schedule are primary metrics.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604771N / <i>Medical Development</i>				Project (Number/Name) 2896 / <i>Military Dental Research</i>					

Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	Various	Various : Not Specified	0.000	0.015	Aug 2017	0.000		0.000		-		0.000	0.000	0.015	-
Subtotal			0.000	0.015		0.000		0.000		-		0.000	0.000	0.015	N/A

	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.015	0.000	0.000	-	0.000	0.000	0.015	N/A

Remarks

The FY2017 funding that is reflected in 2896 is erroneous and should be reflected in project 0933.

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Appropriation/Budget Activity
1319 / 5

R-1 Program Element (Number/Name)
PE 0604771N / *Medical Development*

Project (Number/Name)
2896 / *Military Dental Research*

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2019PB - 0604771N - 2896

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604771N / Medical Development	Project (Number/Name) 2896 / Military Dental Research

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2896				
Program Support 0933:	4	2017	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy										Date: February 2018		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604771N / Medical Development				Project (Number/Name) 9999 / Congressional Adds			
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
9999: Congressional Adds	116.826	15.475	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	132.301
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note
None

A. Mission Description and Budget Item Justification
Congressional Adds: Military Dental Research

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2017	FY 2018
Congressional Add: Military Dental Research	5.803	0.000
FY 2017 Accomplishments: -Continued efforts in cranio-facial injury surveillance; combat dentistry; treatment of maxillofacial injury; dental disease non-battle injuries; oral/facial disease and infection in military personnel.		
FY 2018 Plans: N/A		
Congressional Add: Wound Care Research (transferred from Defense Health Program)	9.672	0.000
FY 2017 Accomplishments: -Continued to develop novel diagnostics and treatments to enhance the care of the wounded warfighter.		
FY 2018 Plans: N/A		
Congressional Adds Subtotals	15.475	0.000

C. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

D. Acquisition Strategy
None

E. Performance Metrics
Not required for Congressional adds.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604771N / Medical Development				Project (Number/Name) 9999 / Congressional Adds					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Congressional Add - Wound Care Research	C/FFP	Noveome Biotherapeutics Inc. : Pittsburg, PA	22.260	9.672	Apr 2018	0.000		0.000		-		0.000	0.000	31.932	-
Congressional Add - Military Dental Research	Allot	Naval Medical Research Unit - San Antonio : San Antonio, TX	5.969	2.952	Aug 2017	0.000		0.000		-		0.000	0.000	8.921	-
Congressional Add - Military Dental Research	MIPR	USAISR Dental and Trauma Research Detachment : San Antonio, TX	5.821	2.851	Aug 2017	0.000		0.000		-		0.000	0.000	8.672	-
Congressional Adds	Various	Various : Not Specified	82.776	0.000		0.000		0.000		-		0.000	0.000	82.776	-
Subtotal			116.826	15.475		0.000		0.000		-		0.000	0.000	132.301	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			116.826	15.475		0.000		0.000		-		0.000	0.000	132.301	N/A
Remarks															

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PE 0604771N: *Medical Development*
Navy

R-1 Line #153

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604771N / Medical Development	Project (Number/Name) 9999 / Congressional Adds

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9999				
Military Dental Research: Schedule Detail	4	2017	4	2018
Wound Care Research: Schedule Detail	3	2018	4	2018