Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy

Appropriation/Budget Activity

R-1 Program Element (Number/Name)

1319: Research, Development, Test & Evaluation, Navy I BA 5: System

PE 0604771N I Medical Development

Development & Demonstration (SDD)

, , ,												
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO <sup>#</sup>	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	53.579	37.426	28.458	8.287	-	8.287	9.935	9.586	9.353	9.601	Continuing	Continuing
0933: Medical/Dental Equipment Dev	18.765	8.464	9.458	8.287	-	8.287	9.935	9.586	9.353	9.601	Continuing	Continuing
9999: Congressional Adds	34.814	28.962	19.000	-	-	-	-	-	-	-	-	82.776

<sup>&</sup>lt;sup>#</sup> The FY 2015 OCO Request will be submitted at a later date.

### A. Mission Description and Budget Item Justification

The purpose of this budget item 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. There is a strong potential for dual use, technology transfer, and biotechnology firms/industry participation in the projects.

B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	14.880	9.458	9.643	-	9.643
Current President's Budget	37.426	28.458	8.287	-	8.287
Total Adjustments	22.546	19.000	-1.356	-	-1.356
<ul> <li>Congressional General Reductions</li> </ul>	-	-			
<ul> <li>Congressional Directed Reductions</li> </ul>	-	-			
<ul> <li>Congressional Rescissions</li> </ul>	-	-			
<ul> <li>Congressional Adds</li> </ul>	-	19.000			
<ul> <li>Congressional Directed Transfers</li> </ul>	-	-			
<ul> <li>Reprogrammings</li> </ul>	-1.600	-			
SBIR/STTR Transfer	-1.155	-			
Program Adjustments	-	-	-0.261	-	-0.261
<ul> <li>Rate/Misc Adjustments</li> </ul>	-	-	-1.095	-	-1.095
<ul> <li>Congressional General Reductions</li> </ul>	-3.699	-	-	-	-
Adjustments					
<ul> <li>Congressional Add Adjustments</li> </ul>	29.000	-	-	-	<del>-</del>

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

**Project:** 9999: Congressional Adds

Congressional Add: Military Dental Research

FY 2014
6.000

Date: March 2014

PE 0604771N: Medical Development

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	
1319: Research, Development, Test & Evaluation, Navy I BA 5: System	PE 0604771N I Medical Development	
Development & Demonstration (SDD)		

1319: Research, Development, Test & Evaluation, Navy I BA 5: System Development & Demonstration (SDD)	PE 0604771N I Medical Development		
Congressional Add Details (\$ in Millions, and Includes General F	Reductions)	FY 2013	FY 2014
Congressional Add: Wound Care Research (transferred from Dea	fense Health Program)	12.983	13.000
Congressional Add: NAMRU Research		9.987	-
	Congressional Add Subtotals for Project: 9999	28.962	19.000
	Congressional Add Totals for all Projects	28.962	19.000

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy								Date: Marc	ch 2014			
Appropriation/Budget Activity 1319 / 5			R-1 Program Element (Number/Name) PE 0604771N / Medical Development PF 0604771N / Medical Development Project (Number/Name) 0933 / Medical/Dental Equipment				Dev					
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO <sup>#</sup>	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0933: Medical/Dental Equipment Dev	18.765	8.464	9.458	8.287	-	8.287	9.935	9.586	9.353	9.601	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

<sup>&</sup>lt;sup>#</sup> The FY 2015 OCO Request will be submitted at a later date.

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

### A. Mission Description and Budget Item Justification

The purpose of this budget item 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 2013	FY 2014	FY 2015
Title: Tactical Logistics Planning Tool	0.040	-	-
Articles:	-	-	-
FY 2013 Accomplishments:			
000			
Tactical Medical Logistics Planning Tool (TML+) - A research tool that models patient flow from the point of injury through definitive care, and an analysis tool that supports OCO operational risk assessment, field medical services planning and systems analysis. Because it can handle larger amounts of data, TML+ provides the capability to model medical treatment facilities at all levels of care and their respective functional areas, the number and type of personnel, and the type, speed, and capacity of transportation assets. The plan is to continue to develop specific modeling capabilities in TML+ to support the development of OCO medical plans that optimize clinical outcomes for combat casualties using the minimum amount of manpower, materiel, and CASEVAC/Enroute care resources.			
FY 2013 Accomplishments: Drafted certification plan for TML to operate on government networks (med, NMCI, OneNet). Initiated update of treatment profiles.			
FY 2014 Plans:			
N/A			
FY 2015 Plans:			
N/A			
Title: Combat Trauma Registry - Expeditionary Medical Encounter Database (CTR EMED)	0.040	-	-
Articles:	-	-	-

PE 0604771N: Medical Development

Navy

EV 2012

EV 2014

EV 2015

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy				
R-1 Program Element (Number/Name) PE 0604771N / Medical Development		<b>Project (Number/Name)</b> 0933 <i>I Medical/Dental Equipment D</i>		
Quantities in Each <u>)</u>		FY 2013	FY 2014	FY 2015
es supporting OCO. The CTR EMED tracks each casualt	y,			
ted required DoD data use agreements.				
A	rticles:	0.166 -	-	-
REW) devices. The absorption of radiofrequency (RF) by F exposures lead to non-uniform absorption in almost all nan body are elegant and elaborate processes but they caused human phantom shells filled with liquids that simulated orption of RF energy a small electric field probe is mechal	ne / the human an te the nically			
	R-1 Program Element (Number/Name) PE 0604771N / Medical Development  Quantities in Each)  ase of all battle injuries, non-battle injuries, disease, and as supporting OCO. The CTR EMED tracks each casualterities in near real-time. The tactical, operational, and case and threat mitigation communities.  The defendance of the specific absorption rate (SAR) of RF energy in the REW) devices. The absorption of radiofrequency (RF) by F exposures lead to non-uniform absorption in almost all an body are elegant and elaborate processes but they can be compared to the specific absorption of RF energy a small electric field probe is mechallorption of RF energy a small electric field probe is mechallors.	R-1 Program Element (Number/Name) PE 0604771N / Medical Development  Quantities in Each)  ase of all battle injuries, non-battle injuries, disease, and mentales supporting OCO. The CTR EMED tracks each casualty, writies in near real-time. The tactical, operational, and casualty and threat mitigation communities.  The ded required DoD data use agreements.  Articles:  S) Prototype will help determine the margin of safety of	R-1 Program Element (Number/Name) PE 0604771N / Medical Development  PY 2013  FY 2013  FY 2013  FY 2013  FY 2014  Articles:  O.166  Articles:  O.166  Articles:  O.166  FY 2015  O.166  Articles:  O.166  FY 2016  Articles:  O.166  FY 2017  O.166  Articles:  O.166  FY 2018  O.166  Articles:  O.166  FY 2019  O.166  Articles:  O.166  FY 2019  O.166  Articles:  O.166  FY 2019  O.166  Articles:  O.166  O.	R-1 Program Element (Number/Name) PE 0604771N / Medical Development  Quantities in Each)  RY 2013  FY 2014  FY 2013  FY 2014  FY 2015  FY 2016  FY 2016  FY 2016  FY 2017  FY 2017  FY 2017  FY 2018  FY 2018  FY 2019  FY

PE 0604771N: Medical Development

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: M	larch 2014	
Appropriation/Budget Activity 1319 / 5		ct (Number/Name) I Medical/Dental Equipment Dev			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantitie	es in Each)		FY 2013	FY 2014	FY 2015
N/A					
Title: Laser Field Testing	Aı	rticles:	0.278	-	-
FY 2013 Accomplishments: OCO: Laser Field Testing - Based on a 5th Fleet Urgent Requirement, an evaluat and government-off-the-shelf (GOTS) Non-Lethal Weapons (NLW) technologombined Acoustic and Laser device as a long range NLW hailing and war policy and treating development for these NLW devices and future acquisition FY 2013 Accomplishments: Submitted Technical Report on operational fies hailers as communication devices for maritime security. Designed and asset laser glare source and superimposing the glare on visual cognitive/perceptions/PY 2014 Plans: N/A	ogy is required to determine the effectiveness of ning device. The bioeffects effort will support legion to deploy these types of systems in-theatre.  Id test measuring effectiveness of Laser and Acoembled a bench apparatus for generating an exte	al, ustic			
<b>FY 2015 Plans:</b> N/A					
Title: Medical/Dental Equipment Dev	Aı	rticles:	7.940 -	9.458 -	8.28
FY 2013 Accomplishments: Individualized Fatigue-Based Scheduling and Countermeasure System - Codetects, and mitigates periods of high risk associated with fatigue. Coordinates transition.	·				
USMC Suicide Prevention Program Resiliency Study and Related Efforts - study and the execution of targeted studies of Marines. Continued assessr determine risk for chronic PTSD and potential factors for mitigation. Effort psychological studies	ments to include 12-month after deployment retur	n to			
Intranasal Carbon Dioxide for Headache and Trigeminal Muscle Pain - Conmigraine therapy with minimal side effects and high efficacy for use on dep					

PE 0604771N: Medical Development

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Appropriation/Budget Activity  3.19 15  3. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) Implementation of an Alternative Watchstanding Schedule on USN Surface Combatants - Continued data collection in support of a ndividualized fatigue-mitigated scheduling.  Joint Development Projects with the Marine Corps Systems Command (MARCORSYSCOM) Medical Acquisition - Continued oblint Development Testing and Evaluation program for medical products and equipment. Finalizing development of casualty care systems for USMC Procurement.  Human Factors Support of OWL Tool - Continued development of systems-design tool in support of the Individual Fatigue-Based Scheduling and Countermeasure System; coordinate fleet user survey; perform task analysis; assist Graphic User Interface (GUI) ayout and design; collaborate on experimental design and coordinate fleet evaluation and testing. Intranasal Scopolamine for the Prevention of Motion Sickness in Dynamic Military Environments - Continued study for the prevention of motion sickness in dynamic military environments.  Validation of Computerized Color Vision Tests for use in Naval Aviation - Continued data collection to validate two computer-based color vision tests that can isolate and classify red-green and yellow-blue color deficiencies and also quantify the loss of chromatic sensitivity.  Biosurveillance Information Service (BIOSERV) - Continued data collection towards a central repository for open and DoD health surveillance data to provide a more robust picture of overall threats in an area.  Biosurveillance Information Service (BIOSERV) - Continued data collection towards a central repository for open and DoD health surveillance data to provide a more robust picture of overall threats in an area.  Biosurveillance Information Service (BIOSERV) - Continued to send the treatment of reidendy Rapid Blood Typing Capabilities to Support Role II Units - Completed initial Phase 1 Field Friedd Friedd Phase 1 Field Friedd Friedd Phase 1 Field Friedd Friedd		UNCLASSII ILD				
3. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)  Miplementation of an Alternative Watchstanding Schedule on USN Surface Combatants - Continued data collection in support of a notificial data collection in support of a notification of an Alternative Watchstanding Schedule on USN Surface Combatants - Continued data collection in support of a notificial data (MARCORSYSCOM) Medical Acquisition - Continued Dialnt Development Testing and Evaluation program for medical products and equipment. Finalizing development of casualty care systems for USMC Procurement.  Human Factors Support of OWL Tool - Continued development of systems-design tool in support of the Individual Fatigue-Based Scheduling and Countermeasure System; coordinate fleet user survey; perform task analysis, assist Graphic User Interface (GUI) ayout and design; collaborate on experimental design and coordinate fleet evaluation and testing. Intransas I Scopolamine for the Prevention of Motion Sickness in Dynamic Military Environments - Continued study for the prevention of motion sickness in dynamic military environments.  Validation of Computerized Color Vision Tests for use in Naval Aviation - Continued data collection to validate two computer-based color vision tests that can isolate and classify red-green and yellow-blue color deficiencies and also quantify the loss of chromatic sensitivity.  Biosurveillance Information Service (BIOSERV) - Continued data collection towards a central repository for open and DoD health surveillance data to provide a more robust picture of overall threats in an area.  Field Friendly Rapid Blood Typing Capabilities to Support Role II Units - Completed initial Phase 1 Field  Field Priendly Rapid Blood Typing Capabilities to Support Role II Units - Completed initial Phase 1 Field  Field Priendly Rapid Blood Typing Capabilities to Support Role II Units  Counter Directed Energy Bio-effects: Completed coordinated test plan for medical device testing with China Lake NAS to test the vulnerability	Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: N	March 2014	
Implementation of an Alternative Watchstanding Schedule on USN Surface Combatants - Continued data collection in support of a ndividualized fatigue-mitigated scheduling.  Joint Development Projects with the Marine Corps Systems Command (MARCORSYSCOM) Medical Acquisition - Continued Joint Development Testing and Evaluation program for medical products and equipment. Finalizing development of casualty care systems for USMC Procurement.  Human Factors Support of OWL Tool - Continued development of systems-design tool in support of the Individual Fatigue-Based Scheduling and Countermeasure System, coordinate fleet user survey; perform task analysis; assist Graphic User Interface (GUI) ayout and design; collaborate on experimental design and coordinate fleet evaluation and testing.  Intranasal Scopolamine for the Prevention of Motion Sickness in Dynamic Military environments - Continued study for the prevention of motion sickness in dynamic military environments.  Validation of Computerized Color Vision Tests for use in Naval Aviation - Continued data collection to validate two computer-pased color vision tests that can isolate and classify red-green and yellow-blue color deficiencies and also quantify the loss of chromatic sensitivity.  Siciosurveillance Information Service (BIOSERV) - Continued data collection towards a central repository for open and DoD health surveillance data to provide a more robust picture of overall threats in an area.  Field Friendly Rapid Blood Typing Capabilities to Support Role II Units - Completed initial Phase 1 Field  Friendly Rapid Blood Typing Capabilities to Support Role II Units  Counter Directed Energy Bio-effects: Completed coordinated test plan for medical device testing with China Lake NAS to test the vulnerability and susceptibility of first responder's medical devices to hostile directed energy environment.  Wound Management Program: Continue to integrate efforts in wound closure, improve diagnostic measures and the treatment of neterotopic ossification.  Wobise Oxygen Vent	Appropriation/Budget Activity 1319 / 5	•	• •			
Individualized fatigue-mitigated scheduling.  Joint Development Projects with the Marine Corps Systems Command (MARCORSYSCOM) Medical Acquisition - Continued Joint Development Testing and Evaluation program for medical products and equipment. Finalizing development of casualty care systems for USMC Procurement.  Human Factors Support of OWL Tool - Continued development of systems-design tool in support of the Individual Fatigue-Based Scheduling and Countermeasure System; coordinate fleet user survey; perform task analysis; assist Graphic User Interface (GUI) ayout and design; collaborate on experimental design and coordinate fleet evaluation and testing.  Intranasal Scopolamine for the Prevention of Motion Sickness in Dynamic Military Environments - Continued study for the prevention of motion sickness in dynamic military environments.  Validation of Computerized Color Vision Tests for use in Naval Aviation - Continued data collection to validate two computer-pased color vision tests that can isolate and classify red-green and yellow-blue color deficiencies and also quantify the loss of chromatic sensitivity.  Biosurveillance Information Service (BIOSERV) - Continued data collection towards a central repository for open and DoD health surveillance data to provide a more robust picture of overall threats in an area.  Field Friendly Rapid Blood Typing Capabilities to Support Role II Units - Completed initial Phase 1 Field Friendly Rapid Blood Typing Capabilities to Support Role II Units  Counter Directed Energy Bio-effects: Completed coordinated test plan for medical device testing with China Lake NAS to test the vulnerability and susceptibility of first responder's medical devices to hostile directed energy environment.  Wound Management Program: Continue to integrate efforts in wound closure, improve diagnostic measures and the treatment of neterotopic ossification.  Mobile Oxygen Ventilation and External Suction (MOVES) Anesthesia - Continued to move toward completing development of MOVES anesthesia module to	B. Accomplishments/Planned Programs (\$ in Millions, Ar	ticle Quantities in Each)	F	FY 2013	FY 2014	FY 2015
Scheduling and Countermeasure System; coordinate fleet user survey; perform task analysis; assist Graphic User Interface (GUI) ayout and design; collaborate on experimental design and coordinate fleet evaluation and testing.  Intranasal Scopolamine for the Prevention of Motion Sickness in Dynamic Military Environments - Continued study for the prevention of motion sickness in dynamic military environments.  Validation of Computerized Color Vision Tests for use in Naval Aviation - Continued data collection to validate two computer-passed color vision tests that can isolate and classify red-green and yellow-blue color deficiencies and also quantify the loss of chromatic sensitivity.  Biosurveillance Information Service (BIOSERV) - Continued data collection towards a central repository for open and DoD health surveillance data to provide a more robust picture of overall threats in an area.  Field Friendly Rapid Blood Typing Capabilities to Support Role II Units - Completed initial Phase 1 Field Friendly Rapid Blood Typing Capabilities to Support Role II Units - Completed initial Phase 1 Field Friendly Rapid Blood Typing Capabilities to Support Role II Units - Completed initial Phase 1 Field Friendly Rapid Blood Typing Capabilities to Support Role II Units - Completed initial Phase 1 Field Friendly Rapid Blood Typing Capabilities to Support Role II Units - Completed initial Phase 1 Field Friendly Rapid Blood Typing Capabilities to Support Role II Units - Completed initial Phase 1 Field Friendly Rapid Blood Typing Capabilities to Support Role II Units - Completed initial Phase 1 Field Friendly Rapid Blood Typing Capabilities to Support Role II Units - Completed initial Phase 1 Field Friendly Rapid Blood Typing Capabilities to Support Role II Units - Completed II Initial Phase 1 Field Friendly Rapid Blood Typing Capabilities to Support Role II Units - Completed II Initial Phase 1 Field Friendly Rapid Blood Typing Capabilities to Support Role II Units - Completed II Initial Phase 1 Field Friendly Rapid Blood Typing Ca	individualized fatigue-mitigated scheduling.  Joint Development Projects with the Marine Corps Systems (	 Command (MARCORSYSCOM) Medical Acquisition - Continue	ed			
surveillance data to provide a more robust picture of overall threats in an area.  Field Friendly Rapid Blood Typing Capabilities to Support Role II Units - Completed initial Phase 1 Field  Friendly Rapid Blood Typing Capabilities to Support Role II Units  Counter Directed Energy Bio-effects: Completed coordinated test plan for medical device testing with China Lake NAS to test the vulnerability and susceptibility of first responder's medical devices to hostile directed energy environment.  Wound Management Program: Continue to integrate efforts in wound closure, improve diagnostic measures and the treatment of neterotopic ossification.  Mobile Oxygen Ventilation and External Suction (MOVES) Anesthesia - Continued to move toward completing development of MOVES anesthesia module to include test and evaluation and critical care certification. This device is a pre-planned product mprovement for FRSS deployment for MTFs, Medicine Clinics, Corpsman, and Navy or USMC Special Operations. Joint effort to result in Marine Corps procurement.  Malaria Vaccine for Military Personnel - Continued augmented efforts with the ongoing clinical trial effort to test, for safety and	Scheduling and Countermeasure System; coordinate fleet us layout and design; collaborate on experimental design and countranasal Scopolamine for the Prevention of Motion Sickness prevention of motion sickness in dynamic military environment Validation of Computerized Color Vision Tests for use in Navi	er survey; perform task analysis; assist Graphic User Interface pordinate fleet evaluation and testing. s in Dynamic Military Environments - Continued study for the ints. al Aviation - Continued data collection to validate two compute	r-			
Wound Management Program: Continue to integrate efforts in wound closure, improve diagnostic measures and the treatment of neterotopic ossification.  Mobile Oxygen Ventilation and External Suction (MOVES) Anesthesia - Continued to move toward completing development of MOVES anesthesia module to include test and evaluation and critical care certification. This device is a pre-planned product mprovement for FRSS deployment for MTFs, Medicine Clinics, Corpsman, and Navy or USMC Special Operations. Joint effort to result in Marine Corps procurement.  Malaria Vaccine for Military Personnel - Continued augmented efforts with the ongoing clinical trial effort to test, for safety and	surveillance data to provide a more robust picture of overall the Field Friendly Rapid Blood Typing Capabilities to Support Ro	hreats in an area. le II Units - Completed initial Phase 1 Field	nealth			
Mobile Oxygen Ventilation and External Suction (MOVES) Anesthesia - Continued to move toward completing development of MOVES anesthesia module to include test and evaluation and critical care certification. This device is a pre-planned product improvement for FRSS deployment for MTFs, Medicine Clinics, Corpsman, and Navy or USMC Special Operations. Joint effort to result in Marine Corps procurement.  Malaria Vaccine for Military Personnel - Continued augmented efforts with the ongoing clinical trial effort to test, for safety and			est the			
MOVES anesthesia module to include test and evaluation and critical care certification. This device is a pre-planned product mprovement for FRSS deployment for MTFs, Medicine Clinics, Corpsman, and Navy or USMC Special Operations. Joint effort to result in Marine Corps procurement.  Malaria Vaccine for Military Personnel - Continued augmented efforts with the ongoing clinical trial effort to test, for safety and	Wound Management Program: Continue to integrate efforts heterotopic ossification.	in wound closure, improve diagnostic measures and the treatm	nent of			
	MOVES anesthesia module to include test and evaluation an	d critical care certification. This device is a pre-planned produc	ct			
			nd			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: N	larch 2014	
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B. Accomplishments/Planned Programs (\$ in Millions, Article Qua	antities in Each)		FY 2013	FY 2014	FY 2015
Non-recompressive therapies for decompression sickness (DCS): Init disabled submarine scenario.	tiated validation trials for a novel recompressive therap	by for a			
FY 2014 Plans: Mobile Oxygen Ventilation and External Suction (MOVES) Anesthesia anesthesia module. This device is a pre-planned product improvement deployment for MTFs, Medicine Clinics, Corpsman, and Navy or USM procurement.	nt for Forward Resuscitative Surgery System (FRSS)				
Wound Management Program: Continue to integrate efforts in wound heterotopic ossification.	closure, improve diagnostic measures and the treatm	ent of			
Implementation of an Alternative Watchstanding Schedule on USN Suindividualized fatigue-mitigated scheduling.	urface Combatants - Complete data collection in suppo	ort of a			
Joint Development Projects with MARCORSYSCOM Medical Acquisit program for medical products and equipment. Finalize development f Individualized Fatigue-Based Scheduling and Countermeasure Syster predicts, prevents, detects, and mitigates periods of high risk associat risk will be predicted and prevented by providing individual, specific, a	for USMC Procurement.  m - Complete research supporting development of a to ted with fatigue. Periods of high individualized perform	ool that			
Validation of Computerized Color Vision Tests for use in Naval Aviation tests that can isolate and classify red-green and yellow-blue color defi					
Malaria Vaccine for Military Personnel - Continue augmented efforts we efficacy, a militarily relevant malaria vaccine regimen utilizing a promis Non-recompressive therapies for decompression sickness (DCS): Coa disabled submarine scenario.	sing novel vaccine candidate.				
Biosurveillance Information Service (BIOSERV) - Continue data collection surveillance data to provide a more robust picture of overall threats in Human Factors Support of OWL Tool - Complete development of syst Scheduling and Countermeasure System; coordinate fleet user survey and coordinate fleet evaluation and testing.	an area. tems-design tool in support of the Individual Fatigue-B	ased			

PE 0604771N: Medical Development

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604771N / Medical Development	, ,	umber/Name) dical/Dental Equipment Dev

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Transition Projects from Force Health Protection Future Capability - Continue effort toward initiating Development, Testing, and			
Evaluation program for transition products from the Office of Naval Research 6.3 Advanced Development program. Focus is on transition of novel haemostatic agents (e.g. infusible haemostatic and field/first responder devices).			
FY 2015 Plans:			
Wound Management Program: Continue to integrate efforts in wound closure, improve diagnostic measures and the treatment of heterotopic ossification.			
Malaria Vaccine for Military Personnel - Complete augmented efforts with the ongoing clinical trial effort to test, for safety and			
efficacy, a militarily relevant malaria vaccine regimen utilizing a promising novel vaccine candidate.			
Biosurveillance Information Service (BioServ) - Complete training and develop maintenance plan.  Joint Development Projects with MARCORSYSCOM Medical Acquisition - Continue Joint Development Testing and Evaluation			
program for medical products and equipment. Finalize development for USMC Procurement.			
Transition Projects from Force Health Protection Future Capability - Continue Development, Testing, and Evaluation program			
for transition products from the Office of Naval Research 6.3 Advanced Development program. Focus will be on transition of			
resuscitation agents, and mitigation of neurotrauma and post-traumatic stress.			
Accomplishments/Planned Programs Subtotals	8.464	9.458	8.287

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

N/A

#### Remarks

### D. Acquisition Strategy

The acquisition strategy for product lines and products in the Medical Development Program is designed and implemented consistent with the particular product and with the nature and size of the investment.

The Medical Development Program operates with a Memorandum of Understanding 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 these products involved direct partnership with the acquisition and procurement professionals at Marine Corps Systems Command. The program's major Product Areas in the Medical Development Program are: 1) Equipment, 2) Pharmaceuticals/ Biologics, and 3) Knowledge/Concepts. The primary Program Areas of Interest are in: 1) Expeditionary Medicine (Navy in Terrestrial, Maritime Surface, Submarine, & Aviation Operations), USMC in Expeditionary Operations. In these areas the focus is on Levels I and II in Clinical Care Medicine; and 2) Products developed for battlefield treatment of Combat Casualties & Combat Trauma, focusing on delivery of Levels III and IV of care.

For areas 1 and 2, there are two primary acquisition strategies. The first is to test and evaluate commercially-developed medical product candidates in managed trials for ultimate Food and Drug Administration (FDA) approval. Partnerships with commercial developers ensure that products of military interest are available for procurement across the DoD, Federal Government, and commercial market. During development, DoD end users are included in the process to the extent possible. The second

PE 0604771N: Medical Development

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
1319 / 5	PE 0604771N I Medical Development	0933 I Medical/Dental Equipment Dev
	<del></del>	

strategy is to drive the development process with DoD program investments. This process involves developing in-house or industrial prototypes in government-managed programs to meet military and regulatory requirements for production and fielding.

Both strategies promote advanced preparation of procurement plans in line with the product availability. Major Medical Development programs falling in these categories are: MOVES and MOVES anesthesia module (Equipment), Dengue vaccine, and Infusible Haemostatic-Phase I Clinical Trials (Pharmaceuticals/Biologics).

The Third Product Area (Knowledge/Concepts) is focused on the introduction of technologies, techniques, and procedures that alter medical practice and standards of care. These primarily require early involvement of the senior leadership of military medicine, in that the result of the program is modification of concepts of operations, policy, and/or doctrine. These are often much smaller; Medical Development Program examples include Navy/USMC Medical Planning Requirement Assessment and Crisis Action Planning Tool Transition.

Programs such as System for Objective Decision-Making on Timing of Wound Closure involve both material and knowledge solutions.

#### **E. Performance Metrics**

Maintaining Scheduled Milestones/Demonstration Events for individualized project/product roadmap. Ensuring dependencies across multiple efforts are maintained on schedule and are primary metrics.

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Exhibit R-4, RDT&E Schedule Prof	ile: PB	2015	Nav	/y																			Da	ite: I	Marc	:h 20	)14		
Appropriation/Budget Activity 1319 / 5															nt (N cal E								Num edica				ipme	ent De	e <i>v</i>
MALARIA	F	Y 20	13			FY 2	2014			FY 2	015			FY 2	2016			FY 2	2017			FY 2	2018			FY:	2019		
	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	
Malaria Vaccine Research																													
Adenovector Manufacturing																													
Pre-Investigational New Drug and Toxicoligical Study	Milestone																												
Preparation of Materials for trials	Milestone																												
Clinical Trial		М	ilesto	ne																									
2015DON - 0604771N - 0933																													

Exhibit R-4, RDT&E Schedule Prof	ile:	PB 2	2015	Navy																			D	ate:	Mar	ch 2	014	
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MIGRAINES		F	Y 201	13		FY:	2014			FY 2	2015			FY:	2016			FY	2017			FY:	2018	3		FY	2019	.
	10	2 G	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	30	40	10	20	3Q	4Q
Complete IRB Process																												
Complete Enrollment of 400 Subjects with Migraine at MTFs and VA facilities		filest	one																									
Analyze Data and Submit Findings to FDA				Milestone																								
FDA Review and Follow-On				Milestone	2																							
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Exhibit R-4, RDT&E Schedule Prof	ile:	PB 2	2015	Nav	у																		D	ate:	Marc	h 20	14		
Appropriation/Budget Activity 1319 / 5																	mbe velop							nber/ al/De			ipme	nt De	ev
USMC SUICIDE		FY:	2013			FY 2	2014			FY 2	2015			FY 2	2016			FY 2	2017			FY 2	018			FY 2	2019		
	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	
psycological Autopsy Study- Full Report with Conclusions and Risk Checklist																													
Impact of USMC Suicide on Family Survivors- Recommendations for Postvention Efforts		Mile	stone	9																									
Marine Resiliency						Miles	stone																						
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Exhibit R-4, RDT&E Schedule Prof	ile: F	PB 2	2015	Nav	у																		D	ate:	Marc	h 20	)14		
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INDIVIDUALIZED FATIGUE		FY:	2013			FY 2	2014			FY 2	2015			FY 2	016			FY 2	2017			FY 2	2018			FY 2	2019		
	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	
Develop Sub Community Schedule																													
Test Schedule		Mile	stone	9																									
2015DON - 0604771N - 0933																													

Exhibit R-4, RDT&E Schedule Prof	ile:	PB 2	2015	Navy																			D	ate:	Marc	:h 20	)14		
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Force Health Protection Transition Projects		FY	2013	3		FY 2	014			FY 2	2015			FY 2	2016			FY 2	017			FY 2	2018			FY 2	2019		
	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	
Continue Development				Miles	stone																								

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Exhibit R-2A, RDT&E Project Ju	ustification:	PB 2015 N	lavy							Date: Mare	ch 2014	
Appropriation/Budget Activity 1319 / 5					_	<b>am Elemen</b> 71N / Medic	•	•	Project (N 9999 / Cor	umber/Nar	,	
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
9999: Congressional Adds	34.814	28.962	19.000	-	-	-	-	-	-	-	-	82.776
Quantity of RDT&E Articles	0.000	-	-	-	_	-	-	-	-	-		

<sup>\*</sup>The FY 2015 OCO Request will be submitted at a later date.

### Note

None

# A. Mission Description and Budget Item Justification

Congressional Adds

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2013	FY 2014
Congressional Add: Military Dental Research	5.992	6.000
FY 2013 Accomplishments: All the Navy Military Dental Research projects are underway. FY13 research efforts included a number of continuation projects from FY12. These efforts include the following accomplishments: Surveillance of crano-facial injuries, dental disease non-battle injuries and oral/facial disease in military personnel; evaluation of immune response associated with maxillofacial bone regeneration; Development substitutes for restoration of skin in facial wounds to improve functional and aesthetic outcomes; and development of antimicrobial/antibiofilm agents to reduce bacterial burden in order to optimize acute care of combat facial wounds.		
FY 2014 Plans: Continue research efforts for Surveillance of crano-facial injuries, dental disease non-battle injuries and oral/facial disease in military personnel; evaluation of immune response associated with maxillofacial bone regeneration; development of substitutes for restoration of skin in facial wounds to improve functional and aesthetic outcomes; and development of antimicrobial/antibiofilm agents to reduce bacterial burden in order to optimize acute care of combat facial wounds.		
Congressional Add: Wound Care Research (transferred from Defense Health Program)	12.983	13.000
<b>FY 2013 Accomplishments:</b> The Wound Care Research Program is a comprehensive effort which continues to develop novel diagnostics and treatments to enhance the care of the wounded warfighter. The program has developed a computer algorithm to predict wound outcomes and has prepared a submission to the FDA for		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy				Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number PE 0604771N / Medical Developed	•	, ,	lumber/Name) ngressional Adds
B. Accomplishments/Planned Programs (\$ in Millions)  permission to initiate a first-in-man clinical trial. This trial is expected to significant improve wound healing in wounded warfighters.	cantly enhance the care of and	FY 2013	FY 2014	
<b>FY 2014 Plans:</b> Continue to develop novel diagnostics and treatments to enhance warfighter.	ance the care of the wounded			
Congressional Add: NAMRU Research		9.987	-	
FY 2013 Accomplishments: The NAMRU is a comprehensive effort including to enhance detection and control strategies for tropical diseases and emerging responsibility of the three OCONUS Naval Medical Research Units, SE Asia, a South and Central America. Products will be directed at primary detection and	g infections in the areas of Africa and the Middle East, and			

**Congressional Adds Subtotals** 

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

but the development and execution of these products will provide the secondary benefit of opportunity to detect

N/A

Remarks

### **D. Acquisition Strategy**

other infectious diseases.

FY 2014 Plans: N/A

None

### E. Performance Metrics

Not required for Congressional adds.

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28.962

19.000