Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy

R-1 ITEM NOMENCLATURE

1319: Research, Development, Test & Evaluation, Navy

PE 0604771N: Medical Development

BA 5: Development & Demonstration (SDD)

APPROPRIATION/BUDGET ACTIVITY

	· · · · · · · · · · · · · · · · · · ·										
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	28.407	33.034	12.707	2.173	14.880	9.471	9.665	10.253	10.450	Continuing	Continuing
0933: Medical/Dental Equipment Dev	11.693	14.934	12.707	2.173	14.880	9.471	9.665	10.253	10.450	Continuing	Continuing
9999: Congressional Adds	16.714	18.100	-	-	-	-	-	-	-	0.000	34.814

#### 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 2011	FY 2012	<b>FY 2013 Base</b>	FY 2013 OCO	FY 2013 Total
Previous President's Budget	12.337	12.984	12.902	-	12.902
Current President's Budget	28.407	33.034	12.707	2.173	14.880
Total Adjustments	16.070	20.050	-0.195	2.173	1.978
<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>	-	18.100			
<ul> <li>Congressional Directed Transfers</li> </ul>	-	-			
<ul> <li>Reprogrammings</li> </ul>	-	-			
SBIR/STTR Transfer	-0.881	-			
<ul> <li>Program Adjustments</li> </ul>	0.300	1.950	-0.161	2.173	2.012
<ul> <li>Rate/Misc Adjustments</li> </ul>	-	-	-0.034	-	-0.034
<ul> <li>Congressional General Reductions</li> </ul>	-0.149	-	-	-	-
Adjustments					
<ul> <li>Congressional Add Adjustments</li> </ul>	16.800	-	-	-	-

# <u>Congressional Add Details (\$ in Millions, and Includes General Reductions)</u>

Project: 9999: Congressional Adds

Congressional Add: Military Dental Research

Congressional Add: Wound Care Research (transferred from Defense Health Program)

FY 2012
5.100
13.000

**DATE:** February 2012

PE 0604771N: Medical Development

UNCLASSIFIED
Page 1 of 19

R-1 Line #131

Navy

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy		ATE: February 2012	2
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604771N: Medical Development		
Congressional Add Details (\$ in Millions, and Includes General	FY 2011	FY 2012	

PE 0604771N: Medical Development

Navy

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

16.714

16.714

18.100

18.100

**DATE:** February 2012

FY 2013 FY 2013 FY 2013

APPROPRIATION/BUDGET ACTIV 1319: Research, Development, Test BA 5: Development & Demonstration	& Evaluation	n, Navy				IENCLATURE PROJECT  Medical Development 0933: Medical/Dental Equipment De			v		
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0933: Medical/Dental Equipment Dev	11.693	14.934	12.707	2.173	14.880	9.471	9.665	10.253	10.450	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

#### A. Mission Description and Budget Item Justification

PE 0604771N: Medical Development

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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy

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. Accomplishments/Planned Programs (\$ in millions, Article Quantities in Each)			F1 2013	FT 2013	FT 2013
	FY 2011	FY 2012	Base	oco	Total
Title: Medical/Dental Equipment Dev	11.693	14.934	12.707	-	12.707
Articles:	0	0	0		0
FY 2011 Accomplishments:					
Wound Management Program - Integrated efforts in wound closure, Hyperspectral Imaging, Heterotopic					
Ossification, and stem cell applications for wound repair.					
- Monitoring, Oxygen Ventilation and External Suction (MOVES) System - Initiated field testing and airworthiness					
testing for device. Continued configuration management of MOVES anesthesia module. Joint effort developed					
system procured by the Marine Corps.					
- Mobile Oxygen Ventilation and External Suction (MOVES) Anesthesia - Continued development of MOVES					
anesthesia module.					
- Intranasal Carbon Dioxide for Headache and Trigeminal Muscle Pain - Continued efforts to provide an abortive					
migraine therapy with minimal side effects and high efficacy for use on deployment and in Military Treatment					
Facilities. Led study data integrator identified to coordinate research sites.					
- Mitigation of Traumatic Brain Injury with Novel Pad Inserts - Continued effort to improve protection provided by					
helmets through a new helmet insert that will absorb shock, impact, and vibration.					
- Attenuated Sporozoite Malaria Vaccine for Military Personnel - Continued 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.					
- Joint Development Projects with MARCORSYSCOM Medical Acquisition - Continued Joint Development					
Testing and Evaluation program for medical products and equipment. Finalized development of casualty care					
systems for USMC Procurement.					

**UNCLASSIFIED** 

Navy Page 3 of 19 R-1 Line #131

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			D	ATE: Febru	ary 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604771N: Medical Development	PROJECT 0933: Medical/Dental Equipment Dev			′	
B. Accomplishments/Planned Programs (\$ in Millions, Article Q	Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
- USMC Suicide Prevention Program Resiliency Study and Related Marine Resiliency study, adding targeted studies of Marines that ma - Transition Projects from Force Health Protection Future Capability Evaluation program for transition products from the Office of Naval I program.  Focused on transition of novel hemostatic agents (e.g. infusible hemostatic agents (e.g. infusible hemostatic agents (e.g. infusible hemostatic agents) (e.g	ay be applicable to larger controls. Initiated Development, Testing, and Research 6.3 Advanced Development Inostatics and field/first responder devices). Ideapons Attack - Completed refinement of thes. Determined probabilistic representation The interoperability with the Office of Naval Tystem - Initiated study for development of thigh risk associated with fatigue. Research Research. The set - Based on a 5th Fleet requirement, initiated trument-off-the-shelf (GOTS) Non-Lethal is of a combined Acoustic and Laser device					
<ul> <li>FY 2012 Plans:</li> <li>- Mobile Oxygen Ventilation and External Suction (MOVES) Anesthe anesthesia module. This device is a pre-planned product improvem Medicine Clinics, Corpsman, and Navy or USMC Special Operation procurement.</li> <li>- Attenuated Sporozoite Malaria Vaccine for Military Personnel - Coclinical trial effort to test, for safety and efficacy, a militarily relevant novel vaccine candidate.</li> <li>- Wound Management Program - Integrate efforts in wound closure Ossification, and stem cell applications for wound repair. The syste of wound healing.</li> </ul>	nent for FRSS deployment for MTFs, is. Joint effort to result in Marine Corps implete augmented efforts with the ongoing malaria vaccine regimen utilizing a promising in Hyperspectral Imaging, Heterotopic					

PE 0604771N: Medical Development

Navy

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			D	ATE: Febru	ary 2012	
	NOMENCLATURE 71N: Medical Development	PROJECT 0933: Medical/Dental Equipment Dev			′	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Ea		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<ul> <li>Intranasal Carbon Dioxide for Headache and Trigeminal Muscle Pain - Complete san abortive migraine therapy with minimal side effects and high efficacy for use on a Treatment Facilities.</li> <li>Individualized Fatigue-Based Scheduling and Countermeasure System - Continue development of a tool that predicts, prevents, detects, and mitigates periods of high Coordinate with the Office of Naval Research to facilitate transition.</li> <li>Joint Development Projects with MARCORSYSCOM Medical Acquisition - Continuand Evaluation program for medical products and equipment. Finalize development - Transition Projects from Force Health Protection Future Capability - Continue Dev Evaluation program for transition products from the Office of Naval Research 6.3 Ac program. Focus will be on transition of novel hemostatic agents (e.g. infusible hemoresponder devices).</li> </ul>	research supporting risk associated with fatigue.  The Joint Development Testing of for USMC Procurement. Elopment, Testing, and Ivanced Development					
OCO: - Foreign Directed Energy System Exploitation - Exploitation of foreign directed ene - Determining and Optimizing Medical Resource Requirements for Expeditionary Medical Encounter Details and optimize medical resource requirements (TML+)) will be developed for Tactical Combat Casualty Care and rhesus surgery Expeditionary Medical Encounter Database (CTR EMED) - Capture expeditionary and illness data and map data to long-term casualty clinical, rehabilitative and quality.	edical Units Engaged cal Logistics Planning nts. Resource projection tactical and medical injury					
FY 2013 Base Plans:  - Attenuated Sporozoite Malaria Vaccine for Military Personnel - Complete augment clinical trial effort to test, for safety and efficacy, a militarily relevant malaria vaccine novel vaccine candidate.  - Individualized Fatigue-Based Scheduling and Countermeasure System - Complete development of a tool that predicts, prevents, detects, and mitigates periods of high Periods of high individualized performance risk will be predicted and prevented by pand fatigue optimized schedules and mitigation strategies.  - USMC Suicide Prevention Program Resiliency Study and Related Efforts - Complete Marine Resiliency study and the execution of targeted studies of Marines. Address	regimen utilizing a promising e research supporting risk associated with fatigue. roviding individual, specific, ete research leveraging the					

PE 0604771N: *Medical Development* Navy

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			D	ATE: Febru	ary 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604771N: Medical Development		PROJECT 0933: Medical/Dental Equipment Dev			
B. Accomplishments/Planned Programs (\$ in Millions, Article Qu	antities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
of assessments to include 12-month after deployment return to determ factors for mitigation. Effort includes assessment of postvention effor - Wound Management Program - Integrate efforts in wound closure, F Ossification, and stem cell applications for wound repair. The system of wound healing.  - Joint Development Projects with MARCORSYSCOM Medical Acquis and Evaluation program for medical products and equipment. Finalize - Transition Projects from Force Health Protection Future Capability - Evaluation program for transition products from the Office of Naval Reprogram. Focus will be on transition of novel hemostatic agents (e.g. responder devices).	ts and psychological studies. Hyperspectral Imaging, Heterotopic will provide improved diagnostic measures sition - Continue Joint Development Testing e development for USMC Procurement. Continue Development, Testing, and esearch 6.3 Advanced Development					
Title: Tactical Logistics Planning Tool	Articles:	_	-	- 0	0.481	0.481
FY 2013 Base Plans: N/A  FY 2013 OCO Plans: A research tool that models patient flow from the point of injury throug supports OCO operational risk assessment, field medical services plait can handle larger amounts of data, TML+ provides the capability to levels of care and their respective functional areas, the number and ty capacity of transportation assets. The plan is to continue to develop support the development of OCO medical plans that optimize clinical minimum amount of manpower, materiel, and CASEVAC/Enroute care	model medical treatment facilities at all properties of personnel, and the type, speed, and specific modeling capabilities in TML+ to outcomes for combat casualties using the e resources.					
Title: Combat Trauma Registry - Expeditionary Medical Encounter Da FY 2013 Base Plans: N/A	atabase (CTR EMED)  Articles:	_	-	0	0.892	0.892 0
FY 2013 OCO Plans: Tri-service database of all battle injuries, non-battle injuries, disease, in deployed medical treatment facilities supporting OCO. The CTR E						

PE 0604771N: *Medical Development* Navy

UNCLASSIFIED

Page 6 of 19

Exhibit D 24 DDT9E Project Justification, DD 2042 Nov.			n	ATE: Eabar	any 2012	
Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy  APPROPRIATION/BUDGET ACTIVITY  1319: Research, Development, Test & Evaluation, Navy  BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604771N: Medical Development		PROJECT 0933: Medical/Dental Equipment Det			
B. Accomplishments/Planned Programs (\$ in Millions, Article Qua	antities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
detailed injury profile of the casualty's injuries and severities in near recasualty clinical data are forwarded to the intelligence, materiel development of maintain CTR EMED infrastructure necessary for support	oper and threat mitigation communities.					
Title: Validation of the Human Surrogate (HS) Prototype  Articles:			-	- 0	0.400 0	0.400
FY 2013 Base Plans: N/A						
FY 2013 OCO Plans:  Validation of the Human Surrogate (HS) Prototype will help determine counter Improvised Explosive Devices (IEDs) devices and munitions. Scientific Inc., designed to be used to make accurate measurements energy in the human body from Counter Radio-Controlled Electronic of radiofrequency (RF) by the human body is very complex. It is well lead to non-uniform absorption in almost all human exposure situation the human body are elegant and elaborate processes but they can on consist of open and closed human phantom shells filled with liquids the human tissue. To measure the uneven absorption of RF energy a sm moved around inside the phantom shell during exposure.	The HS model, developed by Greenwave of the specific absorption rate (SAR) of RF Warfare (CREW) devices. The absorption known that even uniform RF exposures is. Current methods to measure SAR in ly be carried out in the laboratory. These at simulate the electrical properties of					
Continue work on the HS model and the evaluation of the accurate model of radio frequent energy in the human body from Counter Radio-Cont developing some initial research studies looking at the long term use Warfare devices.	rolled Electronic Warfare devices. Start					
<i>Title:</i> Evaluation of Various Commercial and Government Off the She - Based on a 5th Fleet Urgent Requirement	If Non-Lethal Weapons (NLW) Technology  Articles:	-	-	- 0	0.400 0	0.400
FY 2013 Base Plans:						
N/A						
FY 2013 OCO Plans:						

PE 0604771N: Medical Development Navy

Page 7 of 19

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: Research, Development, Test & Evaluation, Navy	PE 0604771N: Medical Development	0933: Medical/Dental Equipment Dev
BA 5: Development & Demonstration (SDD)		

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Based on a 5th Fleet Urgent Requirement, an evaluation of various commercial-off-the-shelf (COTS) and government-off-the-shelf (GOTS) Non-Lethal Weapons (NLW) technology is required to determine the effectiveness of a combined Acoustic and Laser device as a long range NLW hailing and warning device. The bioeffects effort will support legal, policy and treating development for these NLW devices and future acquisition to deploy these types of systems in-theatre.					
Continue the laboratory and field testing of the effectiveness of a combined Acoustic and Laser device as a long range NLW hailing and warning device. Conduct additional field testing under operational conditions.					
Accomplishments/Planned Programs Subtotals	11.693	14.934	12.707	2.173	14.880

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

N/A

Navy

### D. Acquisition Strategy

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 involves 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, and 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 and 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 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).

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 modifications of concepts of operations,

PE 0604771N: Medical Development

Page 8 of 19

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)	PE 0604771N: Medical Development	0933: Medical/Dental Equipment Dev
policy, and/or doctrine. These are often much smaller Medical Crisis Action Planning Tool Transition.	Development Program examples include Navy/USM	IC Medical Planning Requirement Assessment and
Programs such as System for Objective Decision-Making on Til	ming of Wound Closure involve both material and kn	nowledge solutions.
E. Performance Metrics		
Maintaining Scheduled Milestones/Demonstration Events for in	dividualized project/product roadmap. Ensuring criti	cal paths across multiple efforts are primary metrics.

PE 0604771N: Medical Development

UNCLASSIFIED
Page 9 of 19

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy

BA 5: Development & Demonstration (SDD)

**R-1 ITEM NOMENCLATURE** 

PE 0604771N: Medical Development

PROJECT

0933: Medical/Dental Equipment Dev

**DATE:** February 2012

Product Development (	(\$ in Millio	ns)		FY 2	2012	FY 2 Ba	2013 ise	FY 2013 FY 2013 OCO Total		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mobile Anesthesia Delivery Module (MADM)	SS/FP	Thornhill Research, Inc. Toronto:Canada	0.874	-		-		-		-	0.000	0.874	
SLC-Cube and Weight Reduction of Moves	SS/FP	Thornhill Research, Inc. Toronto:Canada	0.450	-		-		-		-	0.000	0.450	
Malaria Vaccine	MIPR	NMRC:Silver Spring MD	0.500	3.600	Dec 2011	0.813	Dec 2012	-		0.813	0.000	4.913	
Migraine Treatment (NPDS)	C/FFP	The McConnell Group:Rockville MD	1.938	0.618	Dec 2011	-		-		-	0.000	2.556	
USMC Suicide Prevention Research	SS/FP	University of California:San Diego	2.098	2.910	Dec 2011	2.910	Dec 2012	-		2.910	0.000	7.918	
Individualized Fatigue- Based Scheduling and Countermeasure System	SS/FP	Pulsar Informatics:Philadelphia PA	0.305	1.183	Jan 2012	0.925	Dec 2012	-		0.925	Continuing	Continuing	Continuing
Product Development	TBD	Various:Not Specified	6.409	4.673	Dec 2011	8.059	Dec 2012	-		8.059	0.000	19.141	
Medical/Dental Equipment Development (OCO)	SS/FP	Various:Not Specified	-	1.950	Jul 2012	-		2.173	Dec 2012	2.173	0.000	4.123	
		Subtotal	12.574	14.934		12.707		2.173		14.880			

#### Remarks

MADM is being executed as partial funding of a new contract between RDECOM Natick, MA and Thornhill Research, Inc. The total contract value is approximately \$4,100K with the project jointly funded by the Navy (\$1,000K) and the USMC for a POP through 29 JUN 2012. The first two proofs of concepts (under N00244-07-C-1531) and the breadboard (under W911QY-08-C-0116) are complete. Animal and human factors testing are ongoing. Next two phases of MADM will be focused on developing the Beta prototype and testing it on animals (base year), followed by building 10 units, verification and validation, environmental, EMC, and vibration testing, and human testing. POP for base year is 12 months which extends to 24 if the option is exercised. It is anticipated that MARCORSYSCOM will assume funding of this effort in FY12 under the existing MOA.

The SLC program incorporates redesign and reconfiguration efforts to enhance the USMC en route care device capability set. The core program effort is supplemented by a congressional add that augments final DT&E efforts of MOVES and configuration and redesign of SLC.

Malaria vaccine research executed as partial funding of a consortium with the National Institute of Allergy and Infectious Diseases and the Malaria Vaccine Initiative. Current year Navy Funding is \$3.6M. The product is the collaborative work between MVPP and a Gates Foundation researcher to develop a vaccine against Plasmodium falciparum. The approach is based on a prime/boost adenovaccine.

The performers developing an intranasal treatment for migraines are the Naval Postgraduate Dental School in conjunction with a contract for the McConnell Group, which will perform a clinical trial to determine the safety and effectiveness of nasal carbon dioxide versus placebo in the treatment of moderate to severe migraine for pain and associated symptoms of nausea, photophobia and phonophobia. This clinical trial will be conducted at six military/VA treatment facilities.

USMC Suicide Prevention Program Resiliency Study and Related Efforts - Complete research leveraging the Marine Resiliency study and the execution of targeted studies of Marines. Address aims including addition of assessments to include 12-month after deployment return to determine risk for chronic PTSD and potential factors for mitigation. Effort includes assessment of postvention efforts and psychological studies.

PE 0604771N: Medical Development

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy

DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy

BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604771N: Medical Development

PROJECT

0933: Medical/Dental Equipment Dev

	Product Development (	in Millio	ns)		FY	2012		2013 ase		2013 CO	FY 2013 Total			
ſ		Contract		Total Prior										Target
		Method	Performing	Years		Award		Award		Award		Cost To		Value of
L	Cost Category Item	& Type	Activity & Location	Cost	Cost	Date	Cost	Date	Cost	Date	Cost	Complete	<b>Total Cost</b>	Contract

Individualized Fatigue-Based Scheduling and Countermeasure System - Initial study is underway for development of a tool that predicts, prevents, detects, and mitigates periods of high risk associated with fatigue. Research leveraged is based upon an effort funded by the Office of Naval Research. Periods of high individualized performance risk will be predicted and prevented by providing individual, specific, and fatigue optimized schedules and mitigation strategies.

Product Development incorporates numerous small efforts within major product lines to address the Navy Surgeon General?s priorities. These efforts include:

System for Objective Decision-making on the Timing of Wound Closure, Treatment Response Modeling, Heterotopic Ossification, Hyperspectral Imaging, Spray-dried Pooled Plasma, Psychological Autopsy Study & Intranasal Scopolamine for the Prevention of Motion Sickness in Dynamic Military Environments and Biosurveillance Information Service (BIO-SERV).

	<b>Total Prior</b>										Target
	Years			FY 2	2013	FY 2	2013	FY 2013	Cost To		Value of
	Cost	FY:	2012	Ва	se	00	co	Total	Complete	Total Cost	Contract
Project Cos	t Totals 12.574	14.934		12.707		2.173		14.880			

Remarks

Navy

PE 0604771N: Medical Development

UNCLASSIFIED
Page 11 of 19

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: Research, Development, Test & Evaluation, Navy	PE 0604771N: Medical Development	0933: Medical/Dental Equipment Dev
BA 5: Development & Demonstration (SDD)		

PE 0604771N: *Medical Development* Navy

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: Research, Development, Test & Evaluation, Navy	PE 0604771N: Medical Development	0933: Medical/Dental Equipment Dev
BA 5: Development & Demonstration (SDD)		

PE 0604771N: *Medical Development* Navy

UNCLASSIFIED
Page 13 of 19

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: Research, Development, Test & Evaluation, Navy	PE 0604771N: Medical Development	0933: Medical/Dental Equipment Dev
BA 5: Development & Demonstration (SDD)		

PE 0604771N: *Medical Development* Navy

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: Research, Development, Test & Evaluation, Navy	PE 0604771N: Medical Development	0933: Medical/Dental Equipment Dev
BA 5: Development & Demonstration (SDD)		

PE 0604771N: Medical Development Navy

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: Research, Development, Test & Evaluation, Navy	PE 0604771N: Medical Development	0933: Medical/Dental Equipment Dev
BA 5: Development & Demonstration (SDD)		

PE 0604771N: Medical Development

UNCLASSIFIED
Page 16 of 19

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: Research, Development, Test & Evaluation, Navy	PE 0604771N: Medical Development	0933: Medical/Dental Equipment Dev
BA 5: Development & Demonstration (SDD)		

PE 0604771N: Medical Development

UNCLASSIFIED
Page 17 of 19

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy			<b>DATE:</b> February 2012
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT	
1319: Research, Development, Test & Evaluation, Navy	PE 0604771N: Medical Development	0933: <i>Medi</i>	cal/Dental Equipment Dev
BA 5: Development & Demonstration (SDD)			

# Schedule Details

	St	art	End	
Events by Sub Project	Quarter	Year	Quarter	Year
Proj 0933		-		
0933 - SLC Verification and Validation Testing	1	2012	2	2012
0933 - MADM - Critical Design Review	2	2011	3	2011
0933 - MADM - Animal Studies	1	2011	4	2011
0933 - MADM - Human Studies	1	2012	4	2012
0933 - MADM - Final Report	4	2012	4	2012

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604771N: Medical Development				PROJECT 9999: Congressional Adds			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
9999: Congressional Adds	16.714	18.100	-	-	-	-	-	-	-	0.000	34.814
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

### A. Mission Description and Budget Item Justification

Congressional Adds

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2011	FY 2012
Congressional Add: Military Dental Research	6.367	5.100
<b>FY 2011 Accomplishments:</b> Continued the development of novel treatments for wounds based on the use of cells and factors to improve wound healing.		
FY 2012 Plans: N/A		
Congressional Add: Wound Care Research (transferred from Defense Health Program)		13.000
<b>FY 2011 Accomplishments:</b> The Wound Care Research Program is a comprehensive effort to develop novel diagnostics and treatments to enhance the care of the wounded warfighter. The program utilizes cutting edge molecular assays and advanced computational biology to develop a device to predict the outcome of wounds. The development of novel treatments for wounds is based on the use of cells and factors to improve wound healing.		
FY 2012 Plans: N/A		
Congressional Adds Subtotals	16.714	18.100

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

N/A

# D. Acquisition Strategy

N/A

### E. Performance Metrics

Not required for Congressional adds.

PE 0604771N: Medical Development

Navy Page 19 of 19

### **UNCLASSIFIED**