

UNCLASSIFIED

FY 2006 PRESIDENT'S BUDGET REVIEW

DATE: February 2005

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604771N
 PROGRAM ELEMENT TITLE: Medical Development

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	FY 2008 ESTIMATE	FY 2009 ESTIMATE	FY 2010 ESTIMATE	FY 2011 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
Total PE Cost	42,010	50,791	7,202	7,585	7,667	7,736	7,779	7,819	Continue	Continue
0933 Medical / Dental Equipment Development										
	5,320	6,871	7,202	7,585	7,667	7,736	7,799	7,819	Continue	Continue
2333 Rural Health										
	6,695	0	0	0	0	0	0	0	0	6,695
2334 Bone Marrow Research										
	2	0	0	0	0	0	0	0	0	2
2795 Coastal Cancer Control										
	3,441	3,464	0	0	0	0	0	0	0	6,905
2836 Vectored Vaccine Research Program										
	1,478	1,236	0	0	0	0	0	0	0	2,714

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2896										
Military Dental Research										
	1,154	3,369	0	0	0	0	0	0	0	4,523
9002 Minimally Invasive Surgical Technology Institute										
	986	2,971	0	0	0	0	0	0	0	3,957
9003 Biomedical Research Imaging - COH National Medical Center										
	2,958	2,475	0	0	0	0	0	0	0	5,433
9249 Low Cost Retractable Needle and Safety Syringe										
	977	0	0	0	0	0	0	0	0	977
9251 Medical Procedures Reference Tool (MPRT)										
	2,499	3,369	0	0	0	0	0	0	0	5,868
9396 Applied Cognitive Science Technologies										
	975	0	0	0	0	0	0	0	0	975

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9397 Discovery, Early, Detection, Evaluation, Treatment and Prevention										
5,853	6,924	0	0	0	0	0	0	0	0	12,777
9398 Distress Streamer Signaling System										
2,872	2,969	0	0	0	0	0	0	0	0	5,841
9399 Health Query and Analysis System										
1,962	3,367	0	0	0	0	0	0	0	0	5,329
9401 Hemoglobin-Based Oxygen Carrier										
4,838	0	0	0	0	0	0	0	0	0	4,838
9592 Acceleration of Clinical Trial for Hemostatic Therapy										
0	1,484	0	0	0	0	0	0	0	0	1,484
9593 Multivalent Dengue Vaccine Program										
0	1,981	0	0	0	0	0	0	0	0	1,981

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9594 Rare Blood Program									
0	990	0	0	0	0	0	0	0	990
9595 Room Elevated Temperature Stable Hemoglobin based									
0	6,936	0	0	0	0	0	0	0	6,936
9596 Somatic Cell Processing Program (Diabetes research)									
0	1,384	0	0	0	0	0	0	0	1,384
Total									
42,010	50,791	7,202	7,585	7,667	7,736	7,779	7,819	Continue	Continue

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PROGRAM CHANGE FOR TOTAL PE:

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The purpose of this 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 documented, authenticated 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.

	<u>FY2004</u>	<u>FY2005</u>	<u>FY2006</u>	<u>FY2007</u>	<u>FY2008</u>	<u>FY 2009</u>	<u>FY2010</u>	<u>FY 2011</u>
(U) FY 2005 President's Budget	5,593	6,101	6,281	7,584	7,737	7,893	8,052	8,214
(U) Adjustments from PRESBUDG:								
2333 - Rural Health	6,800							
2334 - Bone Marrow Research	316							
2795 - Coastal Cancer Center	3,500	3,500						
2836 - Vectored Vaccine Research	1,500	1,250						
2896 - Military Dental Research	1,200	3,400						
9002 - Minimally Invasive Surgical Technology	1,000	3,000						
9003 - Biomedical Research Imaging - COH Center	3,000	2,500						
9005- Community Hospital Telehealth Consortium		1,000						
9249 - Low Cost Retractable Needle and Safety Syringe	1,000							
9251 - Medical Procedures Reference Tool (MPRT)	2,550	3,400						
9396 - Applied Cognitive Science Technologies	1,000							
9397 - Discovery, Early Detection, Evaluation	5,950	7,000						
9398 - Distress Streamer Signaling System	2,975	3,000						
9399 - Health Query and Analysis System	2,000	3,400						
9401 - Hemoglobin-Based Oxygen Carrier	5,000							
SEC 8094	-181							
SEC 8126	-573							

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PROGRAM ELEMENT TITLE: Medical Development

Non-Pay Inflation	-36							
	<u>FY2004</u>	<u>FY2005</u>	<u>FY2006</u>	<u>FY2007</u>	<u>FY2008</u>	<u>FY 2009</u>	<u>FY2010</u>	<u>FY 2011</u>
SBIR	-584							
9592 – Clinical Trial for Hemostatic Therapy		1,500						
9593 – Multivalent Dengue Vaccine Program		2,000						
9594 Rare Blood Program		1,000						
9595 Temperature Stable Hemoglobin		7,000						
9596 Somatic Cell Processing Program		1,400						
Program Adjustments		339	921	1	-70	-157	-253	-375
(U) FY 2006 President's Budget Submission	42,010	50,790	7,202	7,585	7,667	7,736	7,799	7,839

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PROJECT NUMBER & TITLE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	FY 2008 ESTIMATE	FY 2009 ESTIMATE	FY 2010 ESTIMATE	FY 2011 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
M0933 Medical / Dental Equipment Development	5,320	6,871	7,202	7,585	7,667	7,736	7,799	7,839	Continue	Continue

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The purpose of this 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 documented, authenticated 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.

(U) PROGRAM ACCOMPLISHMENT AND PLANS:

1. FY 2004 ACCOMPLISHMENTS:

- TREATMENT OF ACUTE ACOUSTIC TRAUMA: Initiated a prospective study to assess the efficacy of the nutritional supplement N-Acetylcystene in the treatment of acute acoustic trauma (aka - Reactor Trial).
- PREVENTION AND PROTECTION FROM ACUTE ACOUSTIC TRAUMA: Initiated a jointly funded US Navy, US Army and US Special Operations Command investigation of the nutritional supplement N-Acetylcystene (NAC) as an adjunct to hearing protection devices (HPD) for mitigating the risk of Noise-Induced Hearing Loss (NIHL) in soldiers exposed to military noise.
- ATMOSPHERIC CONTAMINANTS ON DISABLED SUBMARINES: Initiated an investigation to identify and quantify potential submarine atmosphere contaminants.

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- EQUIPMENT TESTING IN HYPERBARIC CHAMBERS: Completed test and evaluation of medical equipment exposed to hyperbaric conditions for certification on the authorized for Navy use list (ANU).
- RESTORING EFFECTIVE SURVIVAL IN SHOCK: Initiated a Phase III clinical trials of a hemoglobin-based oxygen carrier for use in treatment of hemorrhagic shock.
- OPERATIVE FIELD DENTISTRY: Continuation of the analysis of components of the operative field dentistry ADAL (ADAL 662).
- FAR FORWARD DENTAL INTERIM RESTORATIVE MATERIAL: Completed an investigation of the effectiveness of interim restorative materials for possible use by non-dental medical personnel in the forward treatment of dental emergencies.
- SEA TRIALS OF NEW SUBMARINE WATCHSTANDING SCHEDULE: Sustained a delay in program completion initially expected in FY03, however, completed project in FY04. Data collected regarding effectiveness of revised underway watchstanding schedule on subjective submariner performance and the effect of the schedule on hormone levels that indicate normal circadian function.
- EFFICACY OF LED VERSUS LLLT IN THE TREATMENT OF ACUTE INVERSION ANKLE SPRAINS: Initiated an investigation of the efficacy of Light emitting diodes as a treatment of acute inversion ankle sprains in military personnel.
- REDUCED OXYGEN BREATHING DEVICE (ROBD): Initiated and completed the evaluation of a reduced oxygen breathing system for high altitude hypoxia training in Navy and Marine Corps flight simulators. System was previously developed in the 6.4 program.
- TACMEDCS: Completed the jointly funded (Navy and Marine Corps) field evaluation of a hand held medical status data recorder. System was previously developed in the 6.4 program.
- TACTILE SITUATIONAL AWARENESS SYSTEM (TSAS): Completed the extension of the TSAS system to rotary wing testing. The effort was expected to be completed in FY03, but sustained a delay as the potential transition sponsor requested additional studies.
- TEST AND EVALUATION OF THE SUBMARINE ATTRITION RISK SCALE: Continued data collection and test and evaluation of a psychological testing instrument to identify submarine school students who are at risk for separation from the Navy.

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- SHIPBOARD MEDICAL ADMINISTRATIVE READINESS TRACKING TOOL (SMART): Initiated and completed assessment of the SMART program to aggregate individual and group medical readiness information into an automated view of current state and future state personnel medical readiness.
- VALIDATION OF FLEET MARINE FORCE MEDICAL RESOURCE REQUIREMENTS: Completed project to validate FMF medical resource requirements using the estimated supply program developed in the 6.4 program.
- IMPROVED SIMULATION OF MEDICAL CARE DELIVERY FOR NAVY OPERATIONS: Initiated and completed an improved model for simulating medical care delivery in far-forward operational environments.

2. FY 2005 PLAN:

- TEST AND EVALUATION OF THE SUBMARINE ATTRITION RISK SCALE: Complete data collection and test and evaluation of a psychological testing instrument to identify submarine school students who are at risk for separation from the Navy.
- EFFICACY OF LED VERSUS LLLT IN THE TREATMENT OF ACUTE INVERSION ANKLE SPRAINS: Completed the investigation of the efficacy of Light emitting diodes as a treatment of acute inversion ankle sprains in military personnel.
- OPERATIVE FIELD DENTISTRY: Complete Phase Two of the analysis of components of the operative field dentistry ADAL (ADAL 662).
- OPERATIVE FIELD DENTISTRY: Initiate the final Phase of the analysis of components of the operative field dentistry ADAL (ADAL 662) emphasizing recent operational experience.
- ATMOSPHERIC CONTAMINANTS ON DISABLED SUBMARINES: Complete the investigation of potential submarine atmosphere contaminants.
- TREATMENT OF ACUTE ACOUSTIC TRAUMA: Complete the prospective study to assess the efficacy of the nutritional supplement N-Acetylcysteine in the treatment of acute acoustic trauma (aka - Reactor Trial).
- RESTORING EFFECTIVE SURVIVAL IN SHOCK: Continue the Phase III clinical trials of a hemoglobin-based oxygen carrier for use in treatment of hemorrhagic shock.

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- IMPROVED ADMINISTRATION OF ANTI-MOTION SICKNESS MEDICATIONS: Initiate evaluation of a fast acting nasal delivery system for medications to treat motion sickness in aviators.
 - BIODYNAMICS DATABASE ANALYSIS: Initiate analysis of high speed aviation crash simulation research conducted at the former Naval Biodynamics Laboratory from the 1950s-1980s for application to new high-speed, high-agility aircraft and vehicle development.
 - VALIDATION OF THE U.S. NAVY DENTAL CLASSIFICATION SYSTEM: Initiate analysis of the Navy dental classification system based on operational experience during the Operations Enduring Freedom and Iraqi Freedom.
 - TACMEDCS: Initiate a joint US Navy, US Marine Corps prototype refinement of the tactical medical coordination system focusing on ensuring compatibility with DoD IM/IT systems such as TRACES, CHCS II, and TMIP-J.
 - TRANSITION PROJECTS FROM THE OFFICE OF NAVAL RESEARCH SPONSORED MEDICAL R&D CORE CAPABILITY PROGRAM: Initiate the transition of a variety of Fleet endorsed, non-specific prototypes that were developed in the 6.1 and 6.2 Core Capability program at Office of Naval Research through FY04.
3. FY 2006 PLAN:
- RESTORING EFFECTIVE SURVIVAL IN SHOCK: Complete the Phase III clinical trials of a hemoglobin-based oxygen carrier for use in treatment of hemorrhagic shock.
 - OPERATIVE FIELD DENTISTRY: Complete the final Phase of the analysis of components of the operative field dentistry ADAL (ADAL 662) emphasizing recent operational experience.
 - IMPROVED ADMINISTRATION OF ANTI-MOTION SICKNESS MEDICATIONS: Complete the evaluation of a fast-acting nasal delivery system for medications to treat motion sickness in aviators.
 - BIODYNAMICS DATABASE ANALYSIS: Complete the analysis of high speed aviation crash simulation research conducted at the former Naval Biodynamics Laboratory from the 1950s-1980s for application to new high-speed, high-agility aircraft and vehicle development.
 - VALIDATION OF THE U.S. NAVY DENTAL CLASSIFICATION SYSTEM: Complete the analysis of the Navy dental classification system based on operational experience during the Operations Enduring Freedom and Iraqi Freedom.

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PROGRAM ELEMENT TITLE: Medical Development

- TACMEDCS: Complete the joint US Navy, US Marine Corps prototype refinement of the tactical medical coordination system focusing on ensuring compatibility with DoD IM/IT systems such as TRACES, CHCS II, and TMIP-J.
 - TRANSITION PROJECTS FROM THE WARFIGHTER PROTECTION FUTURE NAVAL CAPABILITY: Initiate the transition to the fleet or to a SYSCOM transition sponsor of a variety of non-specific prototypes that will begin to arise from the 6.3 Advanced Development Program at the Office of Naval Research through FY05.
 - TRANSITION PROJECTS FROM THE OFFICE OF NAVAL RESEARCH SPONSORED MEDICAL R&D CORE CAPABILITY PROGRAM: Initiate the transition of a variety of Fleet endorsed, non-specific prototypes that were developed in the 6.1 and 6.2 Core Capability program at Office of Naval Research through FY05.
4. FY 2007 PLAN:
- OPERATIVE FIELD DENTISTRY: Complete the final Phase of the analysis of components of the operative field dentistry ADAL (ADAL 662) emphasizing recent operational experience.
 - IMPROVED ADMINISTRATION OF ANTI-MOTION SICKNESS MEDICATIONS: Complete the evaluation of a fast-acting nasal delivery system for medications to treat motion sickness in aviators.
 - BIODYNAMICS DATABASE ANALYSIS: Complete the analysis of high speed aviation crash simulation research conducted at the former Naval Biodynamics Laboratory from the 1950s-1980s for application to new high-speed, high-agility aircraft and vehicle development.
 - TRANSITION PROJECTS FROM THE WARFIGHTER PROTECTION FUTURE NAVAL CAPABILITY: Initiate the transition to the fleet or to a SYSCOM transition sponsor of a variety of non-specific prototypes that will begin to arise from the 6.3 Advanced Development Program at the Office of Naval Research through FY05.
 - TRANSITION PROJECTS FROM THE OFFICE OF NAVAL RESEARCH SPONSORED MEDICAL R&D CORE CAPABILITY PROGRAM: Initiate the transition of a variety of Fleet endorsed, non-specific prototypes that were developed in the 6.1 and 6.2 Core Capability program at Office of Naval Research through FY05.

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B. (U) PROGRAM CHANGE SUMMARY: See Program Change for PE

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E:

(U) Program Elements:

0601153N, Defense Research Sciences
0602236N, Warfighter Sustainment Applied
0603729N Warfighter Protection Advanced Technology

D. (U) SCHEDULE PROFILE: Not applicable.

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