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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program **Date:** March 2014

Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
0130: Defense Health Program I BA 2: RDT&E					PE 0607100HP I Medical Products and Capabilities Enhancement Activities							
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
Total Program Element	14.146	8.177	14.236	15.092	-	15.092	17.356	17.647	19.663	19.663	Continuing	Continuing
377A: GDF-Medical Products and Capabilities Enhancement Activities	14.146	8.177	14.236	15.092	-	15.092	17.356	17.647	19.663	19.663	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Guidance for Development of the Force-Medical Products and Capabilities Enhancement Activities: Funds will support product improvements or evaluations of fielded, commercially available, or currently employed/practiced medical products, therapies, treatments, or medical guidelines to evaluate and/or improve their effectiveness. Included are development efforts to upgrade systems/products that have been fielded or that are routinely used in a fixed facility, or to upgrade systems/products that have received approval for full-rate production and for which procurement funding is anticipated in the current or subsequent fiscal years; development, engineering, and testing of changes to a fielded or procured system/product that alters its performance envelope; and analysis of data on the performance of fielded products or medical practices to identify the need or opportunity for changes. Projects will be funded that provide clinical outcome follow-ups to military unique clinical practice guidelines. In addition, medical IM/IT systems upgrades will be sought for product improvements that will integrate medical injury and autopsy data with non-medical and live fire testing data, and blast sensor field data will be analyzed to determine if the data can be used to confidently predict head injury. These IM/IT enhancements will allow improved prediction of injuries, the knowledge of which will impact improvements to fighting/support vehicles and protective equipment that will ultimately reduce injuries. Efforts address the Military Health System family of Concept of Operations documents and follow-on Capabilities Based Assessments/Joint Capability Documents, appropriate Component requirements, legislative and Executive directives (e.g., National Research Action Plan, Office of Management and Budget Combat Casualty Care Assessment, National Defense Authorization Acts, etc.) and others as appropriate.

B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	15.815	14.646	18.231	-	18.231
Current President's Budget	8.177	14.236	15.092	-	15.092
Total Adjustments	-7.638	-0.410	-3.139	-	-3.139
• Congressional General Reductions	-0.021	-			
• Congressional Directed Reductions	-7.325	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.292	-0.410			
• Reductions related to Departmental Efficiencies - Project 377A	-	-	-3.139	-	-3.139

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Defense Health Program		Date: March 2014
Appropriation/Budget Activity 0130: Defense Health Program I BA 2: RDT&E		R-1 Program Element (Number/Name) PE 0607100HP I Medical Products and Capabilities Enhancement Activities
Change Summary Explanation FY 2013: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0607100-Medical Products and Capabilities Enhancement Activities (-\$0.292 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) Program (+\$0.292 million). FY 2013: General Congressional Reductions to DHP RDT&E, PE 0607100-Medical Products and Capabilities Enhancement Activities (-\$0.021 million). FY 2013: Congressional Directed Reductions (Sequestration) to DHP RDT&E, PE 0607100-Medical Products and Capabilities Enhancement Activities (-\$7.325 million). 		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Defense Health Program										Date: March 2014		
Appropriation/Budget Activity 0130 / 2					R-1 Program Element (Number/Name) PE 0607100HP / Medical Products and Capabilities Enhancement Activities				Project (Number/Name) 377A / GDF-Medical Products and Capabilities Enhancement Activities			
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
377A: GDF-Medical Products and Capabilities Enhancement Activities	14.146	8.177	14.236	15.092	-	15.092	17.356	17.647	19.663	19.663	Continuing	Continuing
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
Guidance for Development of the Force-Medical Products and Capabilities Enhancement Activities: Funds will support product improvements or evaluations of fielded, commercially available, or currently employed/practiced medical products, therapies, treatments, or medical guidelines to evaluate and/or improve their effectiveness. Included are development efforts to upgrade systems/products that have been fielded or that are routinely used in a fixed facility, or to upgrade systems/products that have received approval for full-rate production and for which procurement funding is anticipated in the current or subsequent fiscal years; development, engineering, and testing of changes to a fielded or procured system/product that alters its performance envelope; and analysis of data on the performance of fielded products or medical practices to identify the need or opportunity for changes. Projects will be funded that provide clinical outcome follow-ups to military unique clinical practice guidelines. In addition, medical IM/IT systems upgrades will be sought for product improvements that will integrate medical injury and autopsy data with non-medical and live fire testing data, and blast sensor field data will be analyzed to determine if the data can be used to confidently predict head injury. These IM/IT enhancements will allow improved prediction of injuries, the knowledge of which will impact improvements to fighting/support vehicles and protective equipment that will ultimately reduce injuries. Efforts address the Military Health System family of Concept of Operations documents and follow-on Capabilities Based Assessments/Joint Capability Documents, appropriate Component requirements, legislative and Executive directives (e.g., National Research Action Plan, Office of Management and Budget Combat Casualty Care Assessment, National Defense Authorization Acts, etc.) and others as appropriate.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2013	FY 2014	FY 2015	
Title: 377A: GDF – Medical Products and Capabilities Enhancement Activities									8.177	14.236	15.092	
Description: Provide support for development efforts to upgrade medical products and capabilities that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.												
FY 2013 Accomplishments: Enhanced IM/IT systems, which capture and forward real time injury profiles to intelligence and materiel developer communities, analyze blast sensor field data (expanded to include three different sensor systems) to determine if the data can be used to confidently predict head injury, use anatomical and other models to improve injury prediction, and integrate medical injury and autopsy data with non medical and live fire testing data, progressing toward the ultimate goal of all these IM/IT enhancements to protect the force from injuries while in combat and support combat vehicle development. Completed assessments of 6 Commercial Off-the-Shelf (COTS) Intravenous Fluid warmers for heating efficiency, size, weight, and overall cost were completed and made product recommendations to standardize this product within the Army sets, kits, and outfits resulting in a decreased												

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Appropriation/Budget Activity 0130 / 2		R-1 Program Element (Number/Name) PE 0607100HP / <i>Medical Products and Capabilities Enhancement Activities</i>		Project (Number/Name) 377A / <i>GDF-Medical Products and Capabilities Enhancement Activities</i>	
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2013	FY 2014	FY 2015
<p>logistical footprint. Completed prototype design of a modified Special Medical Emergency Evacuation Device to hold surgical instruments for AF Special Operations Command (AFSOC); built and fielded 8 functional prototypes which are now in use by AFSOC Forward Surgical teams. Fabricated prototype of a foldable NATO litter stand for use in point-of-injury surgeries for AFSOC. New projects undertaken with FY13 funds included: a) modification and testing of a new commercially available anti-rotational device to control rotational movement of a litter during patient evacuation by helicopter, b) adaptation of shelter liners and environmental control units for chemical and biological resistance to function in the Combat Support Hospital setting, c) evaluation of the effectiveness of Army Combat Uniforms treated with permethrin as a barrier to ticks and mosquitoes following extended periods of use, d) evaluation of FDA-approved commercial products to control severe junctional (e.g., groin, pelvis) bleeding, and e) assessment of whether, in the case of above-knee amputees, microprocessor knee or powered knee prostheses are preferable for initial fit.</p> <p>FY 2014 Plans: Funds are to enhance, modify, upgrade, test, and evaluate fielded medical materiel and practices. Investments lead to greater protection for the force from injuries while in fighting and support vehicles, improved equipment, and medical best practices. Efforts enhance medical IM/IT systems that analyze blast sensor field data to determine if the data can be used to confidently predict head injury, and to provide anatomical and other model enhancements to improve injury prediction. Funds support data collection to evaluate the effectiveness of Army Combat Uniforms treated with permethrin as a barrier to ticks and mosquitoes following extended periods of use, and completion of projects to a) evaluate FDA-approved commercial products to control severe junctional (e.g., groin, pelvis) bleeding, b) assess whether, in the case of above-knee amputees, microprocessor knee or powered knee prostheses are preferable for initial fit, c) analyze outcomes of the use of regional anesthesia for combat casualty care in the US Military Healthcare System from 2003-2012, d) evaluate an anti-rotational device to control rotational movement of a litter during patient evacuation by helicopter, and e) test (and modify if necessary) commercially available lightweight carbon fiber spine boards (for immobilization and transport of injured persons) to replace the large, bulky ones currently in use.</p> <p>FY 2015 Plans: Funds will be used to enhance, modify, upgrade, test, and evaluate fielded medical materiel and practices. The focus will be to ensure that performance requirements of materiel such as medical sets, kits and outfits in need of upgrade or replacement, or to be used in an expanded or altered environment from which they originally entered service, are met. Additionally, work will be funded that provides clinical outcome follow-ups to military unique clinical practice guidelines. Investments will continue to lead to greater protection for the force from injuries while in combat and support combat vehicle development, improved equipment, and medical best practices. Efforts will be completed to enhance medical IM/IT systems that analyze blast sensor field data to determine if the data can be used to confidently predict head injury. Funds will support ongoing evaluation of the effectiveness of Army Combat Uniforms treated with permethrin, as a barrier to ticks and mosquitoes, following extended periods of use.</p>					
Accomplishments/Planned Programs Subtotals			8.177	14.236	15.092

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Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0607100HP / <i>Medical Products and Capabilities Enhancement Activities</i>	Project (Number/Name) 377A / <i>GDF-Medical Products and Capabilities Enhancement Activities</i>
C. Other Program Funding Summary (\$ in Millions) N/A		
Remarks		
D. Acquisition Strategy Integrate product improvements and enhancements resulting from post marketing studies and surveillance.		
E. Performance Metrics Principal Investigators will provide quarterly reports and a final report. Performance is measured based on the number of products for which testing either certifies use in a given environment (e.g., sufficiently ruggedized, airworthiness testing) and/or results in a recommendation of a specific product, and delivery of an enhanced product or knowledge product. The benchmark performance metric for research supported in this PE will be the enhancement of a maturity level that is typical of TRL 9.		