



UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000

MAY 11 2016

The Honorable John McCain
Chairman
Committee on Armed Services
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

The enclosed report responds to Senate Report 114-63, page 210, accompanying S. 1558, the Department of Defense Appropriations Act, 2016, which requested the Assistant Secretary of Defense for Health Affairs to provide an update to the congressional defense committees on the U.S. Army Medical Research and Materiel Command and Telemedicine Advanced Technology Research Center research to define, exercise, and refine best practices for management of blast injury mass casualty disasters through the use of Real-Time Locating System (RTLS) technology.

Results demonstrated that implementing RTLS in a major hospital significantly improves efficiency and effectiveness of patient management in both routine hospital operations and in mass casualty incidents, principally through the enhanced ability to locate and deliver both medical equipment and human resources. The Department will continue its efforts to identify and assess research and management systems aimed at defining, exercising, and refining best practices for the management of blast injury mass casualty disasters and those systems that have the potential to improve patient care in both normal and emergency situations.

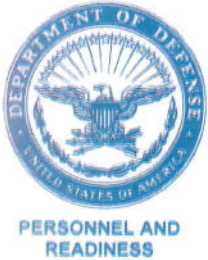
Thank you for your interest in the health and well-being of our Service members, veterans, and their families. A similar letter is being sent to the other congressional defense committees.

Sincerely,

Peter Levine
Acting

Enclosure:
As stated

cc:
The Honorable Jack Reed
Ranking Member



UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000

MAY 11 2016

The Honorable William M. "Mac" Thornberry
Chairman
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

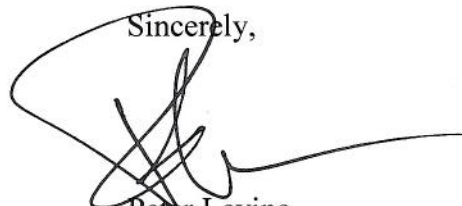
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Sincerely,



Peter Levine
Acting

Enclosure:
As stated

cc:
The Honorable Adam Smith
Ranking Member



PERSONNEL AND
READINESS

UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000

MAY 11 2016

The Honorable Thad Cochran
Chairman
Subcommittee on Defense
Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

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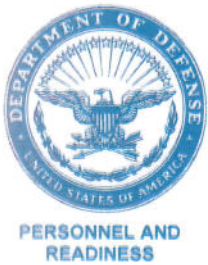
Sincerely,

A handwritten signature in black ink, appearing to be "Peter Levine", written over a circular stamp or mark.

Peter Levine
Acting

Enclosure:
As stated

cc:
The Honorable Richard J. Durbin
Vice Chairman



UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000

MAY 11 2016

The Honorable Rodney P. Frelinghuysen
Chairman
Subcommittee on Defense
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

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Sincerely,

Peter Levine
Acting

Enclosure:
As stated

cc:
The Honorable Peter J. Visclosky
Ranking Member

**REPORT TO THE CONGRESSIONAL DEFENSE COMMITTEES IN
RESPONSE TO SENATE REPORT 114-63, PG 210, ACCOMPANYING S.
1558, DEPARTMENT OF DEFENSE APPROPRIATIONS ACT, 2016**

“REAL-TIME LOCATING SYSTEM [RTLS] TECHNOLOGY”



March 2016

The estimated cost of this report or study for the Department of Defense is approximately \$460 for the 2016 Fiscal Year. This includes \$380 in expenses and \$81 in DoD labor.

Generated on 11 March 2016

PURPOSE

This report is in response to the Senate Report 114-63, page 210, accompanying S. 1558, the Department of Defense Appropriations Act, 2016, which directed the Assistant Secretary of Defense for Health Affairs to provide an update to the congressional defense committees on the U.S. Army Medical Research and Materiel Command (USAMRMC) and Telemedicine Advanced Technology Research Center (TATRC) research to define, exercise, and refine best practices for management of blast injury mass casualty disasters through the use of Real-Time Locating System (RTLS) technology.

USAMRMC TATRC-SUPPORTED RTLS TECHNOLOGY RESEARCH

Automated resource management systems, including RTLS, have the potential to improve patient care in both normal and emergency situations. As directed by Congress, TATRC executed two awards in 2010 and 2011, respectively, to support a two-phase research project evaluating the use of RTLS technology at the Robert Wood Johnson University Hospital, a major regional Academic Medical Center/Level 1 Trauma Center (see Table 1). The research compared the efficiency and efficacy of patient management by healthcare providers before and after implementation of RTLS technology and training under conditions of markedly increased patient surge volume (simulated full-scale mass casualty scenarios) and usual volume (routine hospital operations).

Table 1: USAMRMC TATRC-Executed RTLS Technology Research Awards

Appropriation	Title	Award Information
FY09 Appropriation Title, Anti-Terror Medical Technology Program 2	Phase 1: Use of Real-Time Locating Systems (RTLS) to Optimize Response During Disasters and Other Mass Casualty Events and During Routine Hospital Operation	<ul style="list-style-type: none"> • Award Number: W81XWH-10-1-1048 • Organization: Robert Wood Johnson University Hospital • Period of Performance: Sep 2010 – Oct 2014 • Investment: \$2,452,000
FY10 Appropriation Title, Mass Casualty First Responders Disaster Surge Technology Program	Phase 2: Use of Real-Time Locating Systems (RTLS) to Optimize Response During Disasters and Other Mass Casualty Events and During Routine Hospital Operation	<ul style="list-style-type: none"> • Award Number: W81XWH-11-1-0830 • Organization: Robert Wood Johnson University Hospital • Period of Performance: Sep 2011 – Oct 2014 • Investment: \$2,097,000

Phase 1 supported the establishment of a collaborative team of multidisciplinary experts (national and international, military and civilian) to help define and select the RTLS components, conducting tabletop rehearsal, and completing the pre-RTLS full scale experiment with 300 simulated victims.

Phase 2 supported the procurement and installation of the RTLS system and completing the post-RTLS full scale experiment with 300 simulated victims. Over 2,000 volunteer simulated victims, healthcare personnel, and observers/controllers participated in the research. Routine hospital operations were also measured in the pre- and post-RTLS implementation environments.

Results demonstrated that implementing RTLS in a major hospital significantly improves efficiency and effectiveness of patient management in both routine hospital operations and in mass casualty incidents, principally through the enhanced ability to locate and deliver both medical equipment and human resources. Use of RTLS enhanced efficient patient flow in mass casualty with all patients tracked, and arrived at their final end care point. Results also identified potential research areas related to RTLS that may be expanded upon, such as enhanced control of flow of patients and associated data for improved patient care.

CURRENT RTLS-RELEVANT RESEARCH

The Joint Program Committee-1/Medical Simulation and Information Sciences (JPC-1/MSIS) Health Informatics and Health Information Technologies portfolio supports research relevant to RTLS and other automated resource management systems for healthcare. Examples of research projects are summarized in Table 2.

Table 2: JPC-1/MSIS Research Projects Relevant to RTLS Recommended for Funding in Fiscal Year 2015

Log Number	Performing Organization	Title	Research Description	Investment
BA150676	Educational Testing Service	Development of Direct Observation and Automated Assessment Tools for Multiple-Casualty Scenarios	Develop an automated behavioral analysis and psychometric modeling/assessment tool to produce efficient and reliable estimates of medical personnel teamwork skills in multiple-casualty scenarios.	\$2,048,200
H15027	TATRC	Secure Integration of Point of Care Physiologic Data via Ultra Wideband Communications for Special Operations Forces	Evaluate the effectiveness of moving patient data using Ultra Wideband, a secure wireless technology with low electronic signature that is difficult to intercept or jam.	\$2,549,500

In addition to the projects recommended for funding in fiscal year 2015, the JPC-1/MSIS will continue efforts to identify and assess research and management systems aimed at defining, exercising, and refining best practices for the management of blast injury mass casualty disasters and those that have the potential to improve patient care in both normal and emergency situations.