



OFFICE OF THE UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-4000

PERSONNEL AND
READINESS

OCT 27 2025

The Honorable Susan Collins
Chair
Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Madam Chair:

The Department's response to House Report 118-125, page 73, accompanying H.R. 2670, the National Defense Authorization Act for Fiscal Year 2024, "Cardiac Monitoring for Human Performance and Medical Support," is enclosed.

The Department remains committed to readiness and the capacity to respond to pandemics and biological events at military medical treatment facilities worldwide. The Department reviewed existing programs of effort toward development and/or acquisition of ruggedized tissue oxygen monitoring systems and identified one ongoing acquisition program currently in development Advanced Medical Monitor (AMM) that is in the early Technology Maturation and Risk Reduction phase. The requirement includes tissue monitoring, and the AMM itself is being designed to be a ruggedized, deployable, interoperable, net-connected device that is U.S. Food and Drug Administration-cleared for use by medical personnel far forward.

Thank you for your continued strong support for the health and well-being of our Service members. I am sending similar letters to the other congressional defense committees.

Sincerely,



Sean O'Keefe

Deputy Under Secretary of Defense for
Personnel and Readiness

Enclosure:
As stated

cc:
The Honorable Patty Murray
Vice Chair





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WASHINGTON, D.C. 20301-4000

PERSONNEL AND
READINESS

OCT 27 2025

The Honorable Tom Cole
Chairman
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

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Sean O'Keefe /
Deputy Under Secretary of Defense for
Personnel and Readiness

Enclosure:
As stated

cc:
The Honorable Rosa L. DeLauro
Ranking Member





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WASHINGTON, D.C. 20301-4000

PERSONNEL AND
READINESS

OCT 27 2025

The Honorable Roger F. Wicker
Chairman
Committee on Armed Services
United States Senate
Washington, DC 20510

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Sincerely,



Sean O Keere
Deputy Under Secretary of Defense for
Personnel and Readiness

Enclosure:
As stated

cc:
The Honorable Jack Reed
Ranking Member





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4000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-4000

OCT 27 2025

PERSONNEL AND
READINESS

The Honorable Mike D. Rogers
Chairman
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

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Sincerely,

A large black rectangular redaction box covering the signature area.

Sean O'Keefe
Deputy Under Secretary of Defense for
Personnel and Readiness

Enclosure:
As stated

cc:
The Honorable Adam Smith
Ranking Member

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Report to the Congressional Defense Committees



Cardiac Monitoring for Human Performance and Medical Support

October 2025

The estimated cost of this report or study for the Department of Defense (DoD) is approximately \$1,700 for the 2024 Fiscal Year. This includes \$0 in expenses and \$1,700 in DoD labor.

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I. INTRODUCTION

This report is in response to House Report 118–125, page 73, accompanying H.R. 2670, the National Defense Authorization Act for Fiscal Year 2024, which requests that the Secretary of Defense provide a report to the congressional defense committees on the subject of “Cardiac Monitoring for Human Performance and Medical Support,” that addresses the accelerated development, clinical evaluation, and assessment of the utility of operational medical units of ruggedized tissue oxygen monitoring systems. The report, at minimum, shall include:

- (1) an assessment on how robust it is for field use as well as integration with existing military medical software systems;
- (2) an assessment of the integration into existing care practice by operational medical units; and
- (3) an assessment of the ease of use by a diversity of medical personnel with varying degrees of medical training.

II. BACKGROUND

The Project Management Office (PMO) Operational Medical Systems (OPMED) within the Defense Health Agency’s (DHA) Deputy Assistant Director for Acquisition and Sustainment currently has one active development program, named Advanced Medical Monitor (AMM), that includes the capability to read and monitor tissue oxygen in casualties that are connected to the AMM. The AMM program is in the Technology Maturation and Risk Reduction (TMRR) phase of development, which corresponds to Technology Readiness Levels 4-6. The Warfighter Expeditionary Medicine and Treatment (WEMT) PMO under OPMED manage the AMM program. At this time, there are multiple technologies on the market that can meet the AMM requirement, with additional development.

III. DISCUSSION

(1) An assessment on how robust cardiac monitoring for human performance and medical support is for field use, as well as integration with existing military medical software systems.

The current AMM program will deliver two devices, a Next Generation Medical Monitor (NGMM) and an Expeditionary Medical Monitor (EMM). Both devices are being designed specifically to function reliably during field use (austere conditions) to include consideration of form factor (size, weight, power and connectivity) as well as environmental conditions such as extreme temperatures and climates, salt water, fog and altitude. AMM devices will comply with Health Level Seven and Fast Healthcare Interoperability Resources standards to ensure seamless integration into existing military medical systems. The Joint Operational Medicine Information Systems program office is detailing the specific compliance requirements to ensure AMM will function on Joint Services’ networks. The AMM program currently has no active contracts under the program but, as technologies progress through the acquisition lifecycle, they will be assessed on how well they meet the above criteria for field use.

(2) An assessment of the integration of cardiac monitoring for human performance and medical support is for field use into existing care practice by operational medical units.

AMM devices are designed to enhance care given throughout the care continuum from front line medics to the most advanced clinical providers. Specifically, AMM devices will provide monitoring of standard patient vital signs, to include tissue oxygenation, as well as other physiological measures. AMM is different from other physiological status monitors because it will be a Food and Drug Administration (FDA)-approved medical device, suitable for use in a healthcare setting. AMM will improve warfighter survival rates and transfer patient data from as early as the point of injury to optimize patient outcomes. The NGMM will replace existing monitors with a more capable monitoring capability. The EMM will provide a new capability to support far forward triage as well as return-to-duty rates. As technology matures through the acquisition lifecycle, unit level assessments will be conducted through initial operational test and evaluation. These test events will assess the degree to which these devices can be integrated into existing care practices of the operational medical units.

(3) An assessment of the ease of use of cardiac monitoring for human performance and medical support by a diversity of medical personnel with varying degrees of medical training.

Since the technology is in early development, it has not yet been assessed for use by a diverse group of medical personnel with varying degrees of medical training. However, those assessments are planned throughout the development lifecycle. An operational assessment and end user feedback session is a planned TMRR activity and feedback received will be incorporated into the development and design of the final prototype. Additional testing events, to include an operational and environmental test will occur as part of the Engineering and Manufacturing Development activities.

The formal requirement for AMM is being refined, and it will include the ability to monitor a patient/casualty's tissue oxygen. AMM will be developed with ease-of-use in mind to enable our deployed medical personnel to enhance their own effectiveness to manage, care for, and evacuate casualties under austere conditions. The AMM requirement is intended to generate a material solution that is connected, integrated, and interoperable with the Electronic Health Record, such that captured data, including tissue oxygenation monitoring, heart rate (and/or pulse rate), blood pressure, respiratory rate, and core body temperature, and other parameters can be transferred. AMM is being developed as a FDA-regulated medical device.

III. CONCLUSION

The WEMT PMO within the DHA OPMED PMO will continue to mature the capability of devices for cardiac monitoring for human performance and medical support through the acquisition lifecycle to deliver improved monitoring capabilities to the Warfighter.