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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Defense Health Agency **Date:** February 2016

Appropriation/Budget Activity 0130: <i>Defense Health Program I BA 2: RDT&E</i>	R-1 Program Element (Number/Name) PE 0605023DHA I <i>Integrated Electronic Health Record (iEHR)</i>
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	19.912	28.514	0.248	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
444A: <i>Integrated Electronic Health Record Inc 1/ Defense Medical Information Exchange (DMIX)</i>	12.634	28.514	0.248	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
444B: <i>Information Technology Development - DoD Healthcare Management System Modernization (DHMSM)</i>	4.720	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
449A: <i>Virtual Lifetime Electronic Record (VLER) HEALTH</i>	2.558	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): 465

A. Mission Description and Budget Item Justification

In March 2008, the MHS embarked upon Electronic Health Record (EHR) modernization planning, establishing the initial Electronic Health Records Way Ahead (EHRWA).

In March 2011, the Program was expanded to include the VA in a joint initiative to implement a new, integrated electronic health record for both Departments, called the Integrated Electronic Health Record (iEHR) program.

Secretary Hagel’s Memorandum titled “Integrated Electronic Health Records,” dated May 2013, provided additional direction to the program:

- DoD shall continue near-term coordinated efforts with VA to develop data federation, presentation, and interoperability. This near-term goal shall be pursued as a first priority separately from the longer-term goal of health record information technology (IT) modernization.
- DoD shall pursue a full and open competition for a core set of capabilities for EHR modernization.

To fulfill Secretary Hagel’s directive, parallel programs have been defined, splitting the original iEHR program into two distinct areas. In the Under Secretary of Defense for Acquisition, Technology and Logistics (USD (AT&L)) Acquisition Decision Memoranda (ADM), dated June 21, 2013 and January 2, 2014, the former joint DoD and VA Integrated Electronic Health Record (iEHR) program was restructured to pursue two separate but related healthcare information technology efforts, the DoD Healthcare Management System Modernization (DHMSM) program and a newly defined iEHR focused on providing seamless integrated sharing of electronic health

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data between the DoD and VA to be called Defense Medical Information Exchange (DMIX). The remaining iEHR Increment 1 (iEHR Inc 1) was significantly de-scoped to only the Medical Single Sign-on/Context management (MSSO/CM) implemented at James A. Lovell Federal Health Care Center (JAL FHCC).

iEHR RDT&E is reported under the program element (PE) 0605013 through FY 2013 inclusive, but iEHR, VLER Health and DHMSM will be reported under new program element 0605023 for FY 2014.

In FY 2015, PE 0605023 will report only iEHR and VLER Health since DHMSM will have its own PE starting in FY 2015.

In FY 2016 and out, only iEHR Increment 1 will be reported in PE 0605023. DHMSM will continue to be only initiative reported in PE 0605026. However, new PE 06050039 is established for DMIX for FY 2016 and out. DMIX will incorporate the previous VLER Health and JEHRI initiatives.

B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	68.267	9.216	8.125	-	8.125
Current President's Budget	28.514	0.248	0.000	-	0.000
Total Adjustments	-39.753	-8.968	-8.125	-	-8.125
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-8.968			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-26.699	-			
• SBIR/STTR Transfer	-13.054	-			
• FY 2017 Component Directed Realignment of Funding to DHMSM	-	-	-8.125	-	-8.125

Change Summary Explanation

FY 2015: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0605023-Integrated Electronic Health Record (iEHR) (-\$13.054 million) to DHP RDT&E PE 0605502-Small Business Innovation Research (SBIR) / Small Business Technology Transfer (STTR) Program (+\$13.054 million).

FY 2015: Net of reprogramming actions to the Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0605023-Integrated Electronic Health Record (iEHR) (-\$26.699 million).

FY 2016: Congressional Directed Reduction to the Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0605023-Integrated Electronic Health Record (iEHR) (-\$8.968 million).

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Appropriation/Budget Activity	R-1 Program Element (Number/Name)
0130: <i>Defense Health Program I BA 2: RDT&E</i>	PE 0605023DHA I <i>Integrated Electronic Health Record (iEHR)</i>

FY 2017: Realignment from Defense Health Program, Research, Development, Test and Evaluation (DHP RDT&E), PE 0605023-Integrated Electronic Health Record (iEHR) (-\$8.125 million) to DHP RDT&E PE 0605026- DoD Healthcare Management System Modernization (DHMSM) (+\$8.125 million).

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Defense Health Agency **Date:** February 2016

Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605023DHA / Integrated Electronic Health Record (iEHR)	Project (Number/Name) 444A / Integrated Electronic Health Record Inc 1/ Defense Medical Information Exchange (DMIX)
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
444A: Integrated Electronic Health Record Inc 1/ Defense Medical Information Exchange (DMIX)	12.634	28.514	0.248	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Project MDAP/MAIS Code: 465

A. Mission Description and Budget Item Justification

In March 2008, the MHS embarked upon Electronic Health Record (EHR) modernization planning, establishing the initial Electronic Health Records Way Ahead (EHRWA).

In March 2011, the Program was expanded to include the VA in a joint initiative to implement a new, integrated electronic health record for both Departments, called the Integrated Electronic Health Record (iEHR) program.

Secretary Hagel's Memorandum titled "Integrated Electronic Health Records," dated May 2013, provided additional direction to the program:

- DoD shall continue near-term coordinated efforts with VA to develop data federation, presentation, and interoperability. This near-term goal shall be pursued as a first priority separately from the longer-term goal of health record information technology (IT) modernization.
- DoD shall pursue a full and open competition for a core set of capabilities for EHR modernization.

To fulfill Secretary Hagel's directive, parallel programs have been defined, splitting the original iEHR program into two distinct areas. In the Under Secretary of Defense for Acquisition, Technology and Logistics (USD (AT&L)) Acquisition Decision Memoranda (ADM), dated June 21, 2013 and January 2, 2014, the former joint DoD and VA Integrated Electronic Health Record (iEHR) program was restructured to pursue two separate but related healthcare information technology efforts, the DoD Healthcare Management System Modernization (DHMSM) program and a newly defined iEHR focused on providing seamless integrated sharing of electronic health data between the DoD and VA to be called Defense Medical Information Exchange (DMIX). The remaining iEHR Increment 1 (iEHR Inc 1) was significantly de-scoped to only the Medical Single Sign-on/Context management (MSSO/CM) implemented at James A. Lovell Federal Health Care Center (JAL FHCC).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2015	FY 2016	FY 2017
Title: Integrated Electronic Health Record Inc 1/ Defense Medical Information Exchange (DMIX) (Tri-Service)	28.514	0.248	0.000
Description: The iEHR Increment 1 initiative achieved Full Deployment Decision November 2014 and is targeted to reach Full Deployment milestone by May 2016. Sustainment efforts for iEHR Increment 1 include the DoD sustainment of the James A			

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Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605023DHA / <i>Integrated Electronic Health Record (iEHR)</i>	Project (Number/Name) 444A / <i>Integrated Electronic Health Record Inc 1/ Defense Medical Information Exchange (DMIX)</i>

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2015	FY 2016	FY 2017
<p>Lovell Federal Health Care Center (JAL FHCC) health care information technology that includes medical single sign-on/context management (MSSO/CM). Program funding is also included to maintain DoD operations at the Interagency Program Office (IPO).</p> <ul style="list-style-type: none"> The DoD/VA Interagency Program Office (IPO) was re-chartered on December 5, 2013. The mission focus is addressing and coordinating the establishment of a clinical and technical standards profile and processes for data interoperability to create seamless integration of health data for DoD and VA. The IPO will leverage national and international standards and open architecture design principles to preserve flexibility, and foster data interoperability with each other and appropriate commercial entities. The IPO will enhance existing DoD and VA efforts with The Office of the National Coordinator (ONC) for Health Information Technology within the Health and Human Services (HHS) and other national and international standards organizations and coordinate and monitor the common components required for health data sharing and interoperability. The primary deliverables include technical data interoperability architecture requirements, interface control documentation, terminology standards identification and data exchange guidance. <p>FY 2015 Accomplishments:</p> <ul style="list-style-type: none"> DMIX has successfully deployed 2 major releases, 1 software patch, conducted an operational assessment, as well as a “blue team” penetration testing assessment, and delivered five Builds of DoD data maps. The three releases in FY2015 included: Viewer Patch (December 2014), Release 2 (March 2015), and Release 3 (September 2015): <ul style="list-style-type: none"> The Viewer Patch blocked DoD users from viewing VA immunization data and added a banner to reflect VA data is not complete and added VA Immunization Terminology Maps. DoD functional community provided this as a requirement and wanted this feature added for DoD as the VA allows patients to "self-report" immunizations. DoD does not allow or recognize self-reported immunizations. Release 2 provided end users with the ability to view the remaining data domains with defined standards, blocked users from viewing “blacklisted” patient medical information (patient information that is highly sensitive such as the President or a member of Congress), and integrated Joint Legacy Viewer (JLV) into the AHLTA client menu enabling AHLTA users to access JLV from AHLTA. A future release will incorporate a FCLG approved update to change “JLV” to “Health Information Portal” (HIP) within the AHLTA menu. These accomplishments will support the enterprise wide deployment of JLV. Release 3 collapsed enterprise viewers (VLER, Bidirectional Health Information Exchange (BHIE)-AHLTA, and BHIE-SHARE) into the single viewer capability, defined the delta between existing functionality and JLV functionality, and added available private sector data for DoD patients into each applicable widget as well as a single community healthcare widget. Release 3 collapsed the VLER and BDA adaptors into the DMIX Data Exchange Services. Specifically the major releases also added the additional functionality: <ul style="list-style-type: none"> Single Sign on- Context Management for AHLTA users to include a link to JLV inside of the AHLTA tree Patient search by electronic data interchange personal identifier (EDIPI) 			

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Appropriation/Budget Activity 0130 / 2	R-1 Program Element (Number/Name) PE 0605023DHA / <i>Integrated Electronic Health Record (iEHR)</i>	Project (Number/Name) 444A / <i>Integrated Electronic Health Record Inc 1/ Defense Medical Information Exchange (DMIX)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
<ul style="list-style-type: none"> o Added 4 new clinical data domains to display standardized terms o Collapsed multiple viewer key functionality and capabilities into the single JLV viewer o Complied with ICD-10 mandate o Enhanced patient search to allow a patient to be selected from a list of recently viewed patients o Enhanced "break the glass" capability in order to allow the viewing of sensitive DoD records o DMIX Viewer Component Milestone C achieved Sept 2015 <p>FY 2016 Plans: Small Business Innovation Research</p> <p>FY 2017 Plans: No Funding Programmed.</p>			
Accomplishments/Planned Programs Subtotals	28.514	0.248	0.000

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• BA-1, PE 0807784DHA: <i>Information Technology Development -</i>	61.901	18.300	17.183	-	17.183	16.284	16.505	17.958	16.883	Continuing	Continuing
• BA-3, 0807784DHA: <i>Replacement/Modernization</i>	3.199	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Appropriation/Budget Activity 0130 / 2					R-1 Program Element (Number/Name) PE 0605023DHA / <i>Integrated Electronic Health Record (iEHR)</i>				Project (Number/Name) 444B / <i>Information Technology Development - DoD Healthcare Management System Modernization (DHMSM)</i>			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
444B: <i>Information Technology Development - DoD Healthcare Management System Modernization (DHMSM)</i>	4.720	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

DHMSM will acquire and support deployment, and implementation of an electronic health record (EHR) system that replaces the DoD legacy MHS inpatient and outpatient EHR systems. Overarching goal of the program is to enable healthcare teams to deliver high-quality, safe care and preventive services to patients through the use of easily accessible standards-based computerized patient records resulting in: improved accuracy of diagnoses and medication; improved impact on health outcomes; increased patient participation in the healthcare process; improved patient-centered care coordination; and increased practice efficiencies in all settings, including operational environments.

DHMSM replaces DoD legacy healthcare systems with a commercial solution in use in other medical systems that is open, rendered as a modular architecture, using standards-based/non-proprietary interfaces. DHMSM will support the Department's goals of net centrality by providing a framework for full human and technical connectivity and interoperability that allows DoD users and mission partners to share the information they need, when they need it, in a form they can understand and act on with confidence, and protects information from those who should not have it. Once fielded, the EHR will support the following healthcare activities for DoD's 44,000 practitioners and 9.5 million beneficiaries.

1. Clinical workflow and provider clinical decision support;
2. Capture, maintain, use, protect, preserve and share health data and information;
3. Retrieval and presentation of health data and information that is meaningful for EHR users regardless of where the patient's records are physically maintained; and
4. Analysis and management of health information from multiple perspectives to include population health, military medical readiness, clinical quality, disease management, and medical research.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2015	FY 2016	FY 2017
Title: DoD Healthcare Management System Modernization (DHMSM)	0.000	0.000	0.000
Description: DHMSM will be executed to deliver uniform information management options across both garrison and theater environments. DHMSM will focus on replacement of inpatient and outpatient systems, and will encompass deployment of the enterprise EHR to fixed facilities as well as expeditionary components.			
FY 2015 Accomplishments:			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
No Funding Programmed..			
<i>FY 2016 Plans:</i> No Funding Programmed.			
<i>FY 2017 Plans:</i> No Funding Programmed.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.000

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Appropriation/Budget Activity 0130 / 2					R-1 Program Element (Number/Name) PE 0605023DHA / <i>Integrated Electronic Health Record (iEHR)</i>				Project (Number/Name) 449A / <i>Virtual Lifetime Electronic Record (VLER) HEALTH</i>			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
449A: <i>Virtual Lifetime Electronic Record (VLER) HEALTH</i>	2.558	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

The primary goal of the VLER Health initiative is to enable the secure sharing of health information (i.e., demographic and clinical data) between DoD and external Federal and private sector partners which meets Meaningful Use (MU) requirements to improve healthcare quality, safety, and efficiency. By electronically sharing health information using national standards, that information can support tracking key clinical conditions, communicating that information to better coordinate care, and engaging patients in their own care. The VLER Health initiative provides clinicians with the most up-to-date information, potentially reducing redundant diagnostic tests, medical errors, paperwork and handling, and overall healthcare costs. These benefits, in turn, align with the MHS quadruple aim by ensuring that the military force is medically ready to deploy; the military beneficiary population remains healthy through focused prevention; patient care is convenient, equitable, safe, and of the highest quality; and the total cost of healthcare is reduced through the reduction of waste and focus on quality

B. Accomplishments/Planned Programs (\$ in Millions)

Title: Virtual Lifetime Electronic Record (VLER) HEALTH	FY 2015	FY 2016	FY 2017
Description: Pursue the primary goal of the VLER Health initiative is to enable the secure sharing of health information (i.e., demographic and clinical data) between DoD and external Federal and private sector partners which meets Meaningful Use (MU) requirements to improve healthcare quality, safety, and efficiency.	0.000	0.000	0.000
FY 2015 Accomplishments: No Funding Programmed.			
FY 2016 Plans: No Funding Programmed.			
FY 2017 Plans: No Funding Programmed.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.000

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

<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017 Base</u>	<u>FY 2017 OCO</u>	<u>FY 2017 Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• BA-1, PE 0807784: <i>Integrated Electronic Health Record (iEHR)</i>	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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

<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• BA-3, PE 0807784: <i>Replacement/ Modernization, Integrated Electronic Health Record</i>	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evaluate and use the most appropriate business, technical, contract and support strategies and acquisition approach to minimize costs, reduce program risks, and remain within schedule while meeting program objectives. Strategy is revised as required as a result of periodic program reviews or major decisions.

E. Performance Metrics

Each program establishes performance measurements which are usually included in the MHS IT Annual Performance Plan. Program cost, schedule and performance are measured periodically using a systematic approach.