

## 2016 Defense Health Information Technology Symposium

# Tangible Benefits of Health IT Research for Military Health



*“Medically Ready Force...Ready Medical Force”*

**“A joint, integrated, premier system of health, supporting those who serve in the defense of our country.”**



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# Learning Objectives

- Discuss data collection efforts on Research and Development (R&D) projects and the capabilities available under the "R&D as a Service" offering
- Identify opportunities and benefits of using established partnership agreements with universities and research centers
- Describe partnership opportunities and the relationships that the DHA has formed with other organizations
- Explain how Health IT (HIT) organizations can implement and benefit from the results of research
- Present information on the outcomes and operational benefits of recent and important Health IT research projects

# Agenda

- Research and Development as a Service (R&DaaS)
- External Research Collaboration
  - Primary Types of Partnership Agreements
  - Potential Partnership Opportunities Under Agreements
- Transition Management Process
  - Workflow
  - Lessons Learned
- Success Stories
  - Selected Completed and Upcoming Health IT Research Projects

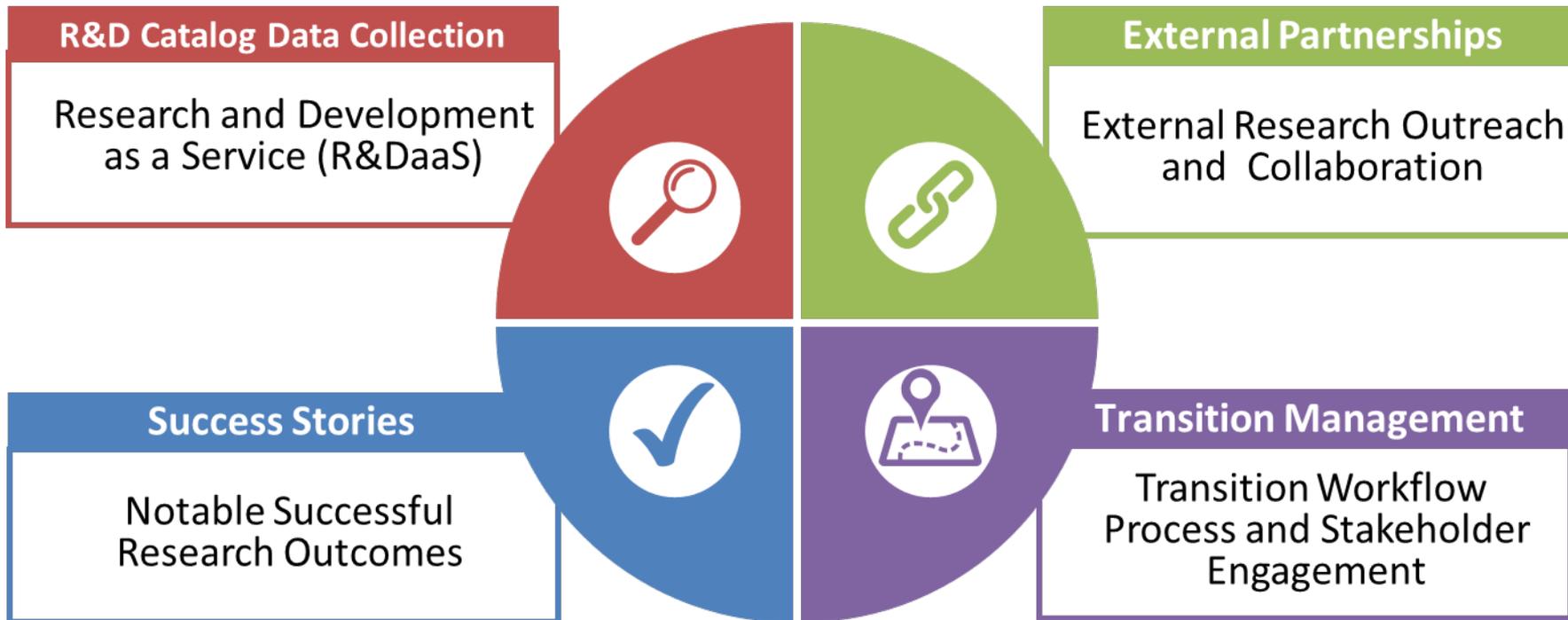


# Overview



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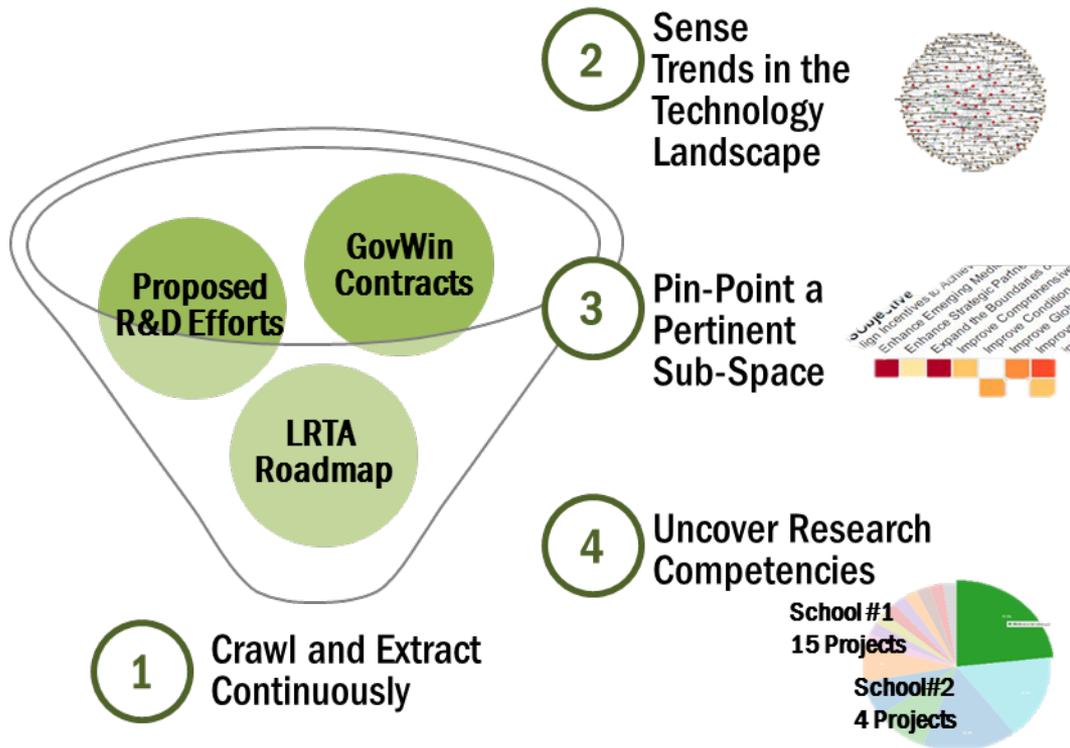


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# Research and Development (R&D) as a Service (R&DaaS)

In order to maintain an accurate record of all ongoing R&D projects, the DHA continues to enhance its R&D Directory by using Web Crawling and analytics capabilities, to pin-point the most effective solutions currently being provided by top academic, Federal, and commercial research centers.

Through exhaustive data collection, functional alignment and analysis, we can **help internal and external stakeholders find the best IT “problem-solvers” for a particular domain or focus area.**



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# External Research Collaboration



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- Within the DHA, the Health IT (HIT) and Education & Training (E&T) Directorates are leading the charge for external research collaboration
  - **The HIT Directorate** promotes innovation in support of the Warfighters and their families and streamlines adoption of new HIT R&D through inception, development, execution, and deployment across the DHA
  - **The E&T Directorate** leads a standardized, high value education, and training program across the MHS and works to maximize educational resources for the DHA



# Primary Types of Partnership Agreements



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## Educational Partnership

**Agreements (EPA):** formal agreement between a defense laboratory and an educational institution for the purpose of encouraging and enhancing study in scientific disciplines at all levels of education.

EPAs aid the students' educational experience by providing a platform to benefit from staff expertise, and unique DoD facilities and equipment.

## Memorandum of Agreement

**(MOA):** written document describing a cooperative relationship between two parties wishing to work together on a project or to meet an agreed upon objective. A MOA is more formal than a verbal agreement, but less formal than a contract.

Organizations can use a MOA to establish collaborative agreements (data use or technical assistance agreements, and service partnerships)



# Potential Partnership Opportunities Under Agreements

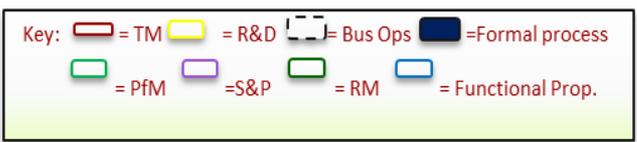
- Lecture Series on Military Health IT topics
- Loaning of Equipment
- Scientific Review of R&D efforts
- Committee Membership/Mentorship (counseling and/or sponsoring a student through a paper)
- Data Use and Sharing Agreements
- Student Internships at a DHA IT Lab or Office
- Counseling researchers through MHS funding instruments for research (e.g. Broad Agency Announcements (BAAs))
- Conducting research together in one of the DHA's labs
- Socializing the University's research through the DHA (i.e., R&D as a Service data collection effort)



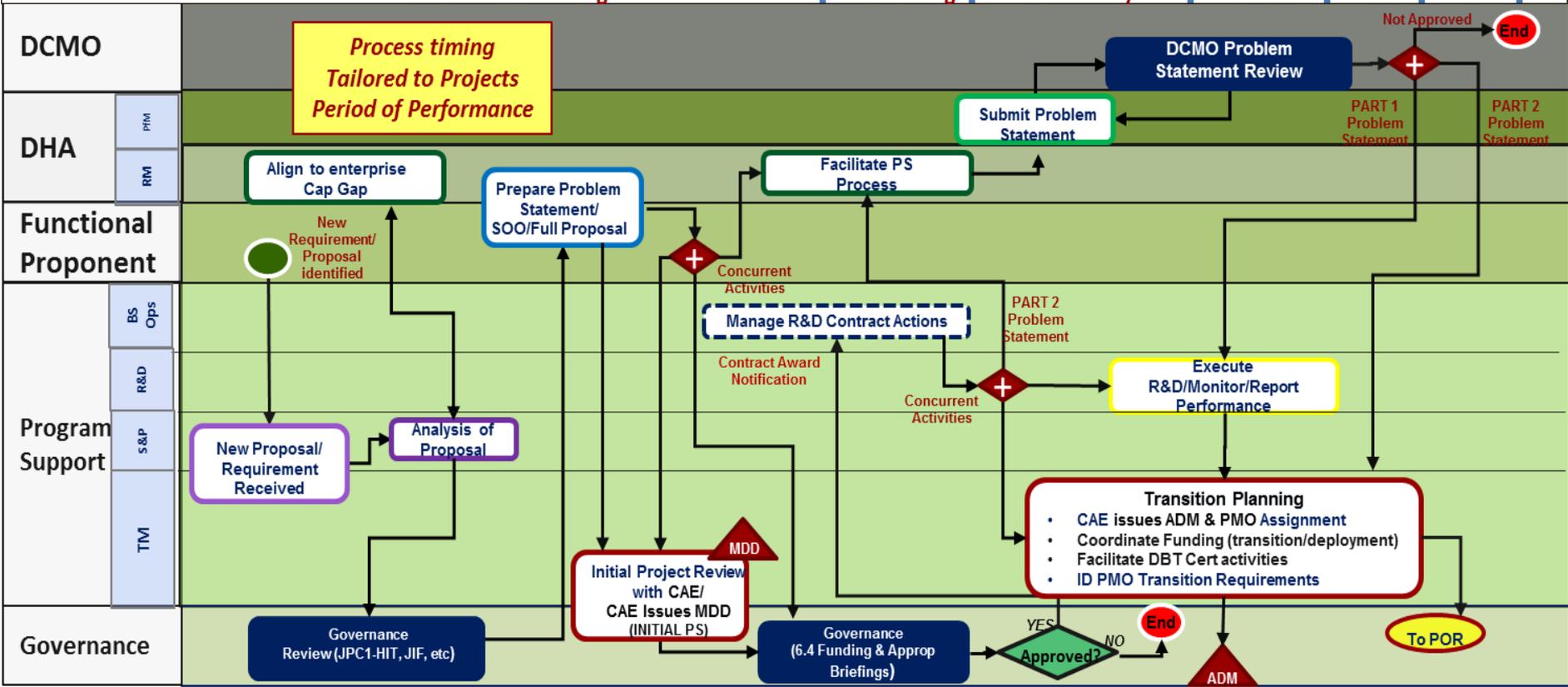
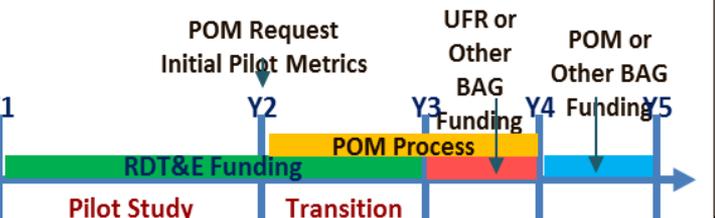
# HIT Research Transition Management Process

Our Transition Management (TM) process enables efficient and timely transition of Health IT research projects to a program management office (PMO), or program of record (POR) while ensuring compliance with all acquisition, privacy, and governance policies and requirements.





# HIT Research Proposal Workflow (3/9/16)





# Successful Transition of HIT Research Projects

- Starts early in the research lifecycle
- Uses a standard transition workflow to navigate the complex interfaces required for transition
- Works closely with the research functional sponsor, the targeted program office, Office of the Component Acquisition Executive (OCAE), MHS Governance, and other stakeholders
- Integrates with Defense Acquisition Milestones



# Selected Success Stories: **Recently Completed** HIT Research Projects (1 of 3)



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- **iEHR Business Optimization (iBO), Research Report:** Report that identifies, analyzes and studies feasible transition/migration strategies of the reuse of legacy data and related processes to support risk reduction activities for transitioning the Department of Defense (DoD) and Veterans Affairs (VA) to a new joint architecture. *(PoP Ended September 2014)*
- **Emergency Department Real-Time Location System Patient & Equipment Tracking, Research Report:** Research demonstrated the ability to use time stamps via radio frequency identification and a real time location system to capture patient flow, drive operational efficiency and improve patient satisfaction and asset utilization. *(PoP Ended April 2015)*



# Selected Success Stories: **Recently Completed** HIT Research Projects (2 of 3)



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- **Semantic Web Technology for Mapping and Applying Clinical Functional Assessment Information, Research Report and Software Prototype:** Research provided for the development of a mechanism that employs non-obtrusive ontology-based Web-forms to encode key functional data, and make the data queryable to model patient data for further processing. *(PoP Ended May 2015)*
- **Novel Visualization of Large Health Related Data Sets, Research Report:** Research explores a matrix of visualization methods which compress petabytes of health care data into segments of related data which allow the user to interactively explore the data elements and understand from the perspective of an entire population, different disease groups, ages, and other variables. *(PoP Ended August 2015)*

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# Selected Success Stories: **Recently Completed** HIT Research Projects (3 of 3)



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- **Children’s Hospital Integrated Patient Electronic Record System, Research Report:** Determine whether computerized order entry with clinical decision support systems is an appropriate tool for managing critically ill patients across differing “time sensitivities” as well as determine how environmental/system factors influence the decisions to follow clinical guidelines. *(PoP Ended Oct2015)*
- **Evaluation of Military and Civilian Outcomes after Burn Injury II: A Multicenter Study, Research Report:** Results of development of a quality assessment tool which accurately measures the key factors associated with improved products for military burn victims and returns the burn-injured soldier to active duty or civilian status. *(Pop Ended October 2015)*

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- **Medical Device Plug-and-Play Interoperability Standardization Program Development - 1) Medical Device Interoperability Standard ASTM F2761-2009: Medical Devices and Medical Systems 2) Medical Device Free Interoperability Requirements for the Enterprise (MD FIRE) Contracting Language:** Research entails the development of open networking communications standards and related technologies to accelerate medical device interoperability. Plug and play platform will be used to support optimal resource allocation through an Integrated Clinical Environment. *(PoP Ends March 2017)*



- **Enhancing mHealth Technology in PCMH Environment to Activate Chronic Care Patients, Research Report:** A multi-site phased feasibility study showing use of bi-directional data exchange with the MHS Secure Messaging System with personal health record and impact on self-management behaviors of type-2 diabetes patients in the PCMH environment. *(PoP Ends February 2017)*
- **Legacy Program Management (LPI), Software Prototype:** Transition Application Plan Support (TAPS) Transition Framework (TTF) will utilize all CHCS data as Semantic Web-based Resource Description Framework. LPI will extend the TAPS TTF by utilizing CHCS data and extracting data from additional core legacy systems. This will allow for the long-term availability of legacy patient and provider data for use in current and future DoD healthcare applications. *(PoP Ends September 2017)*



- In order to better align as a Combat Support Agency, DHA HIT IATDD has successfully implemented:
  - Data Collection Efforts
  - Development of External Outreach Partnerships
  - Standardized Transition Process
- The efforts of IATDD help support an end-to-end HIT R&D lifecycle management process, which will align to MHS objectives and provide solutions for fit, healthy, and protected force and beneficiaries

# Key Takeaways

- Data collection efforts of R&D projects
  - Developing enhancements to the Research and Development (R&D) Catalog allows it to become more accessible and useable by the military health information technology R&D community
- External Outreach Partnerships
  - Developing partnerships with academic institutions and federal labs allows both partners to share knowledge and advance research
- Transition Management
  - Using a standard transition workflow process, the Transition Management Team is committed to working closely with the Functional Sponsor(s), PMO/POR, MHS Governance, and other stakeholders to facilitate the research transitioning and avoiding the ‘valley of death’

# Questions?



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# Evaluations

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Please complete your evaluations

## Contact Information

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