

# 2014 Defense Health Information Technology Symposium

## Improving Healthcare Outcomes through Innovative Health Technologies



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

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



## Learning Objectives

- Discuss how health IT innovations can allow the MHS to better deliver health and customer services in more imaginative and efficient ways
- Understand key health innovation buckets the MHS is targeting for its research efforts
- Learn how to help identify and suggest innovative, IT-enabled approaches to address problem statements affecting the military health community
- Recognize your role in helping engage and expand health IT innovation across the MHS

# Agenda

- Establishing the Defense Health Agency
- Changing our approach to HIT Innovation and Advanced Technology Development efforts
- Defining the HIT Innovation Program and its key “buckets”
- Understanding how HIT Innovations can support better health outcomes
- Benefiting from a centrally-managed HIT Innovation Program
- Campaigning for ideas
- Recognizing your role

In March 2012, the Assistant Secretary of Defense (Health Affairs) states that the DHA proposal is the 70% solution towards a unified medical command.



Ten Shared Services were identified and mapped to six Directorates.

## Initial Operating Capability (IOC) for Shared Services

Oct 2013  
Facilities  
**Health IT**  
Health Plan  
Medical Logistics

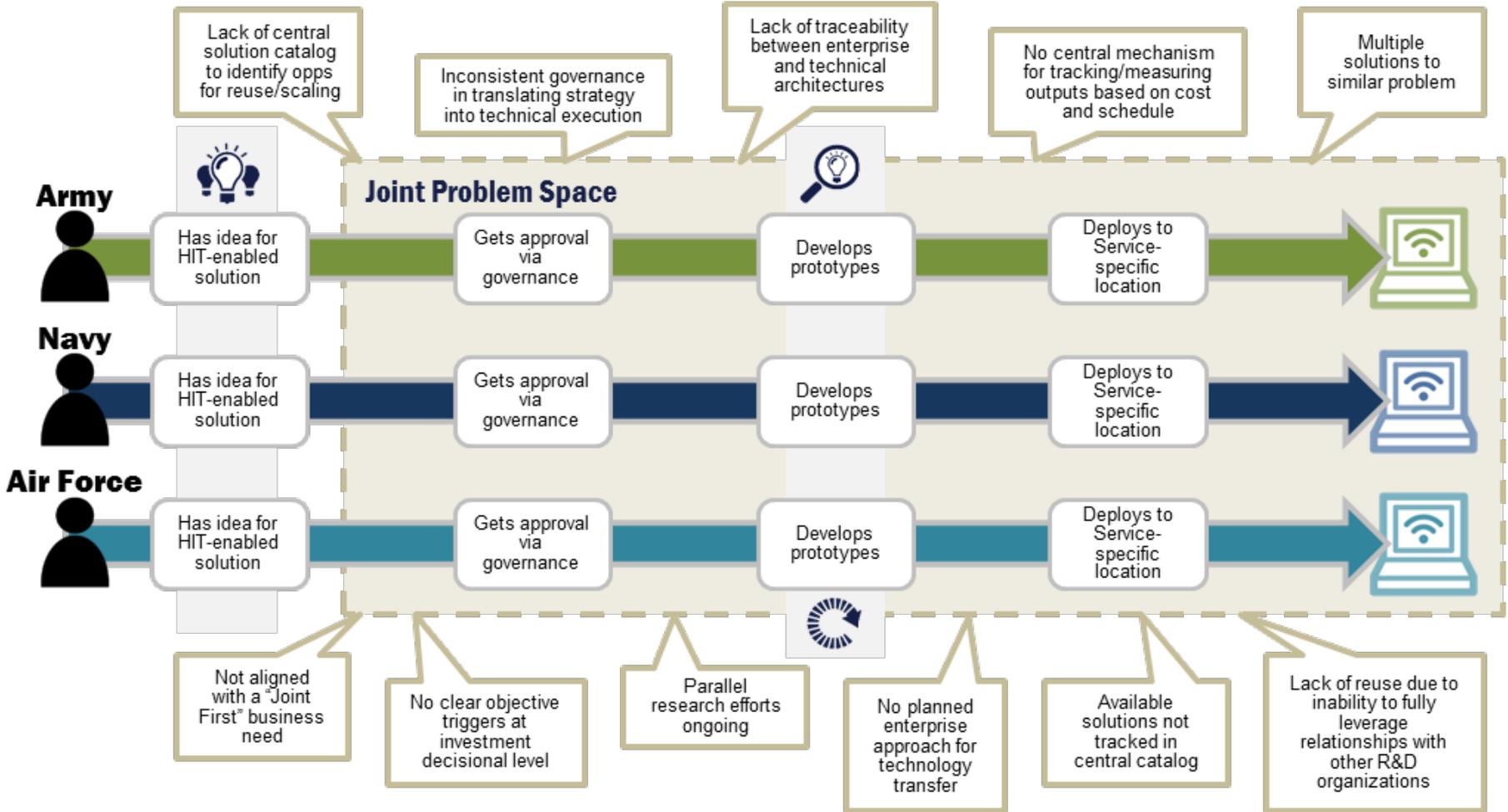
2014  
Budget and Resource Management  
Contracting  
Education and Training  
Pharmacy  
Public Health  
Research and Development

### HIT Divisions

Innovation & Advanced Technology Development Division	Portfolio Management & Customer Relations Division	Infrastructure & Operations Division	Solution Delivery Division	Information Delivery Division	Cyber Security Division	Defense Health Services Systems (DHSS)	Defense Health Clinical Systems (DHCS)
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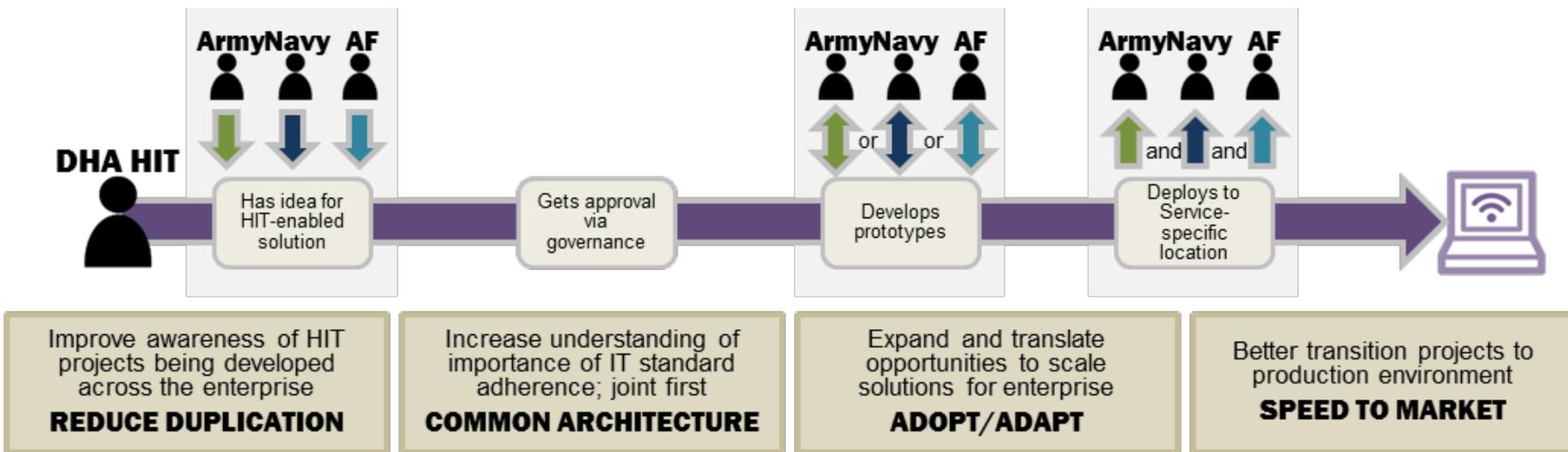
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# Prior to Initial Operating Capability (IOC), health IT research activities were independently managed across multiple organizations.



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Now as part of the DHA, the enterprise is looking to reengineer its HIT research process in support of the Secretary of Defense's Priority #4.



“Advocated and facilitated medical research into innovative approaches to protect, support, and advance the health and welfare of military personnel by accelerating medical technologies and new standards that can be applied in theater or in the clinical facilities.”

Health Affairs Support to DOD Secretary of Defense  
Priority #4 - Protecting investments in emerging military capabilities

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Post-IOC, Advanced Technology Development and Health IT Innovation activities will be centrally strategized, managed, and executed out of a single office - the IATD Division under HIT.



## IATD Division Key Focus Areas (as of Oct 2013, IOC)

**Advanced  
Technology  
Development**

**Health IT  
Innovation**

**Service  
Oriented  
Enterprise**

**Technical  
Architecture**

- **Advanced Technology Development:** Monitor, produce, and transfer the highest quality, relevant health care IT engineering and technology-oriented research by leveraging capabilities with-in DOD, DHA, and Industry; focused primarily on the near-term needs of military health IT community
- **Health IT Innovation:** Identify, pilot, and evaluate transformational and disruptive health information technologies that have the potential to provide tangible benefit to the DHA enterprise and improve healthcare outcomes; focused primarily on the long-term needs of military health IT community
- **Service Oriented Enterprise:** Provide an organizational framework for instilling, governing, and evolving the culture of reuse and sharing of enterprise SOA assets for improved agility
- **Technical Architecture:** Maintain a joint, technical “city plan” linking business needs to technical solutions; provide enterprise ‘knowledge’ through data democratization

The IATD Division’s Director also serves as the **Military Health System’s Chief Technology Officer**

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It is important to understand the difference between **HIT Innovation** and **Advanced Technology Development** and how they address the technology landscape over time.



## Addressing the Technology Landscape

### Health IT Innovation

- Driven by ideas that seem disruptive and/or transformational
- Map to HIT Innovation buckets approved by ASD(HA) [Cognitive Analytics, Mobile Wars, Cloud Computing, Digital Engagement]

Meeting tomorrow's needs

### Advanced Technology Development

- Driven by functional gaps and strategic priorities
- Map to HR CONOPS approved by JROC [Health Service Delivery (HSD), Health System Support (HSS), Force Health Protection (FHP)]

Meeting today's needs

## TECHNOLOGY LANDSCAPE

One Year

Three

Five

Seven

Nine

Eleven

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The **HIT Innovation Program** will focus on identifying, piloting, and evaluating innovative “solutions” that can help improve DHA healthcare outcomes.

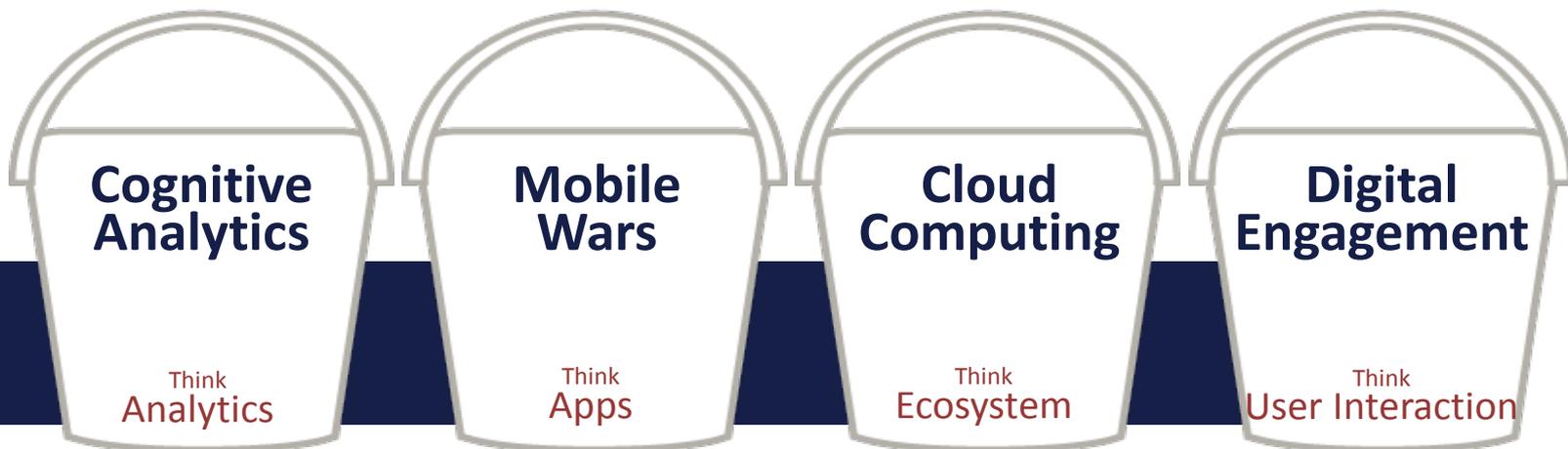


## HIP Mission

To rapidly identify, pilot and evaluate **transformational and disruptive** health information technologies that have the potential to provide tangible benefit to the DHA enterprise

## HIP Vision

To implement **transformational and disruptive** innovations in healthcare and improve healthcare outcomes



Despite a high risk for failure, Health IT Innovation pilots have the potential to reap large ROI

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# HIT Innovation Bucket

## Cognitive Analytics

Combining human insight and intuition with machine number-crunching and visualizations. Discover important new questions you didn't know you could ask.

Think  
"Analytics"

### Cognitive Analytics

Actionable  
Analytics

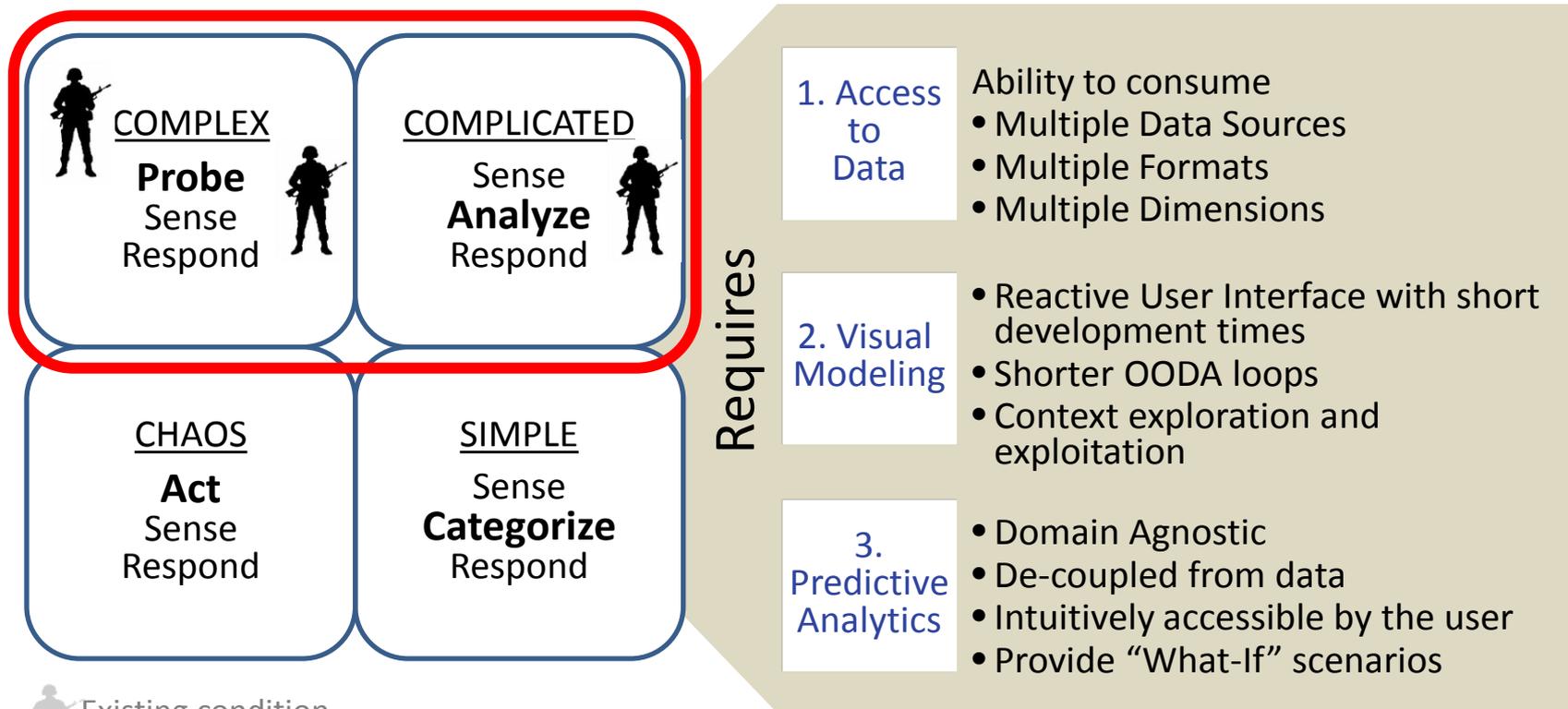
Big Data

Patient  
Decision Aids

Master Data  
Management

Ideas that deal with **Cognitive Analytics** present the MHS the opportunity to leverage data to understand critical correlations that can help answer complex healthcare questions.

## “Addressing the Chasm”



 Existing condition in a patient

There needs to be an environment that can combine these three facets seamlessly

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# HIT Innovation Bucket

## Mobile Wars

Reshaping operations,  
businesses and marketplaces –  
delivering information and  
services to where decisions are  
made and transactions occur.

Think  
“Apps”

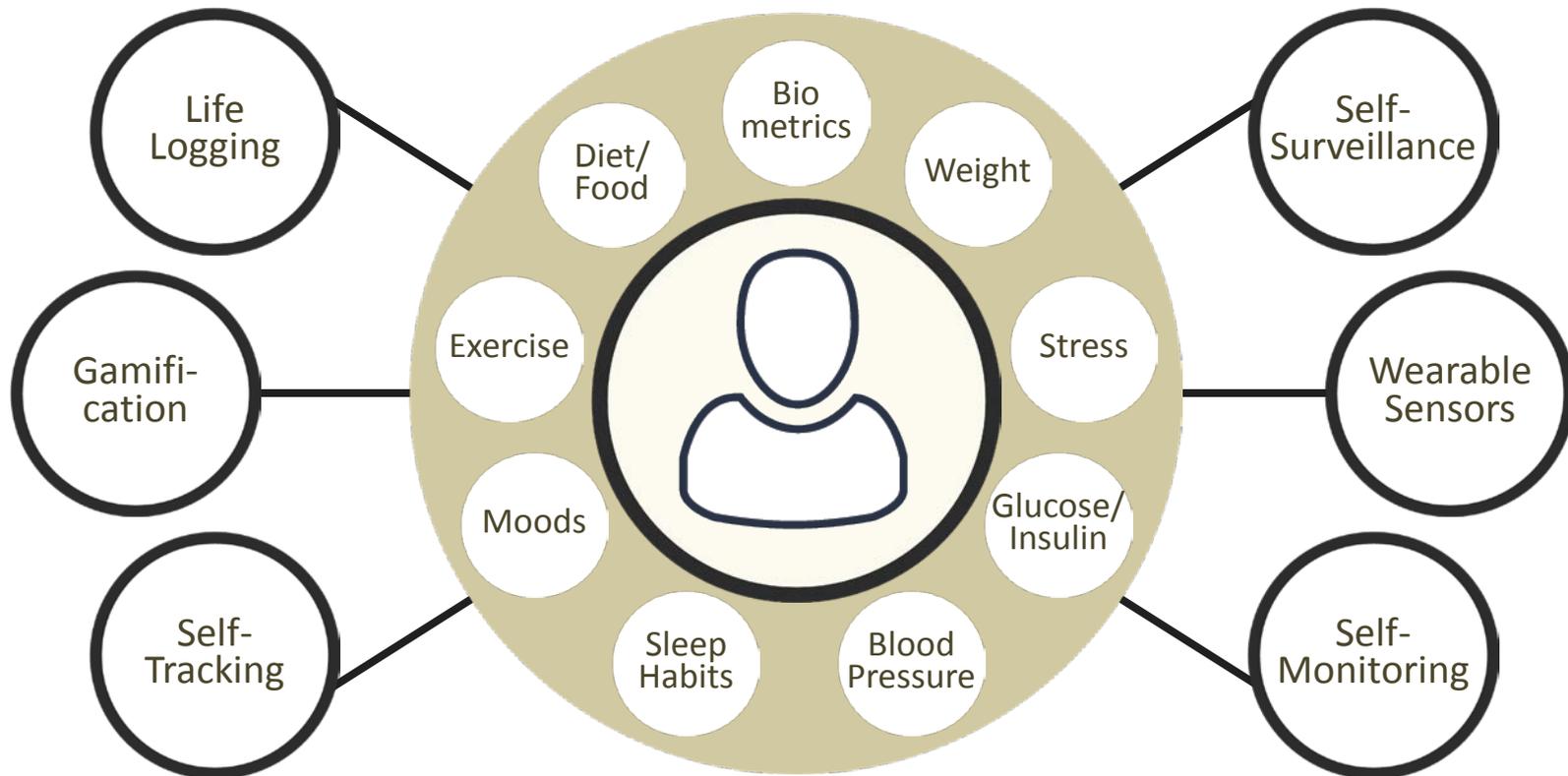
### Mobile Wars

Wearables  
Media Tablets  
Mobile-Centric  
Apps

Ideas related to **Mobile Wars** present the MHS with the opportunity to think of an untethered, connected enterprise.

## *“Quantified Self”*

self-knowledge through self-tracking with technology



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# HIT Innovation Bucket

## Cloud Computing

Creating an enterprise-wide digital backbone to accelerate design as a discipline adoption and create clarity about the integrated nature of foundational technologies.

Think  
“Ecosystem”

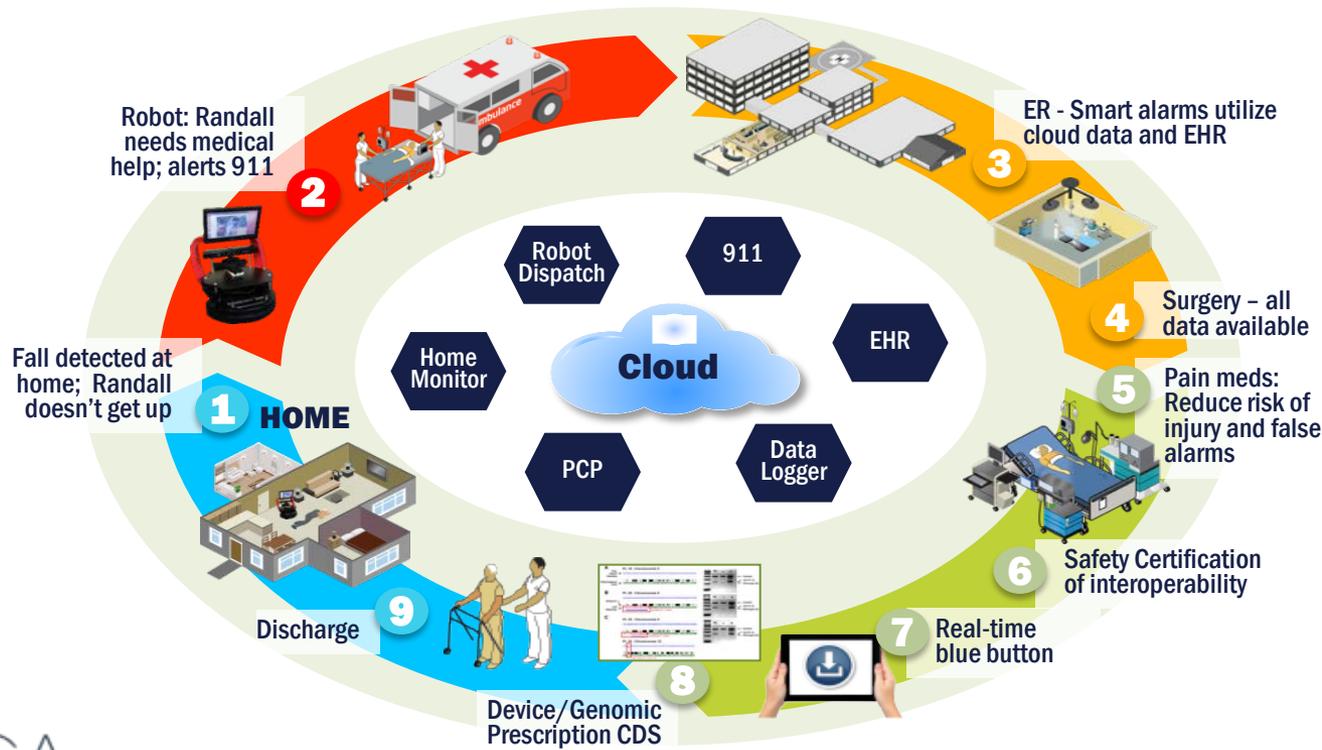


Ideas related to **Cloud Computing** present the MHS with the opportunity to increase speed, mobility, and collaboration of healthcare services while potentially decreasing costs.

## “Internet of Things”

### Closed Loop HealthCare Team: Home to Hospital to Home

This graphic depicts a mix of current and planned capabilities



# HIT Innovation Bucket

## Digital Engagement

Engineering social platforms for specific context platforms that can relieve rather than serve traditional organizational constraints. Transforming how work can get done.

Think  
“User Interaction”

### Digital Engagement

Social Activation  
Crowdsourcing  
Patient Center  
Medical Home  
Personal Health  
Management  
Tools

Ideas related to **Digital Engagement** present the MHS with the opportunity to fundamentally transform how work gets done.

## “Crowdsourcing”

Soliciting contributions from the larger community

Engage seamlessly...      Make content easily accessible...

across multiple channels

Email



Phone



Video



24x7



Apps



Online



“Digital engagement involves using technology to design more compelling, personally relevant, engrossing experiences that lead to lasting, productive relationships, higher levels of satisfaction, and new sources of revenue.” *Deloitte Tech Trends 2014*

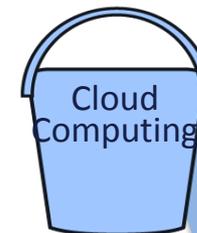
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Combining aspects from these buckets affords the MHS the opportunity to quickly experiment with the “Art of the Possible”.

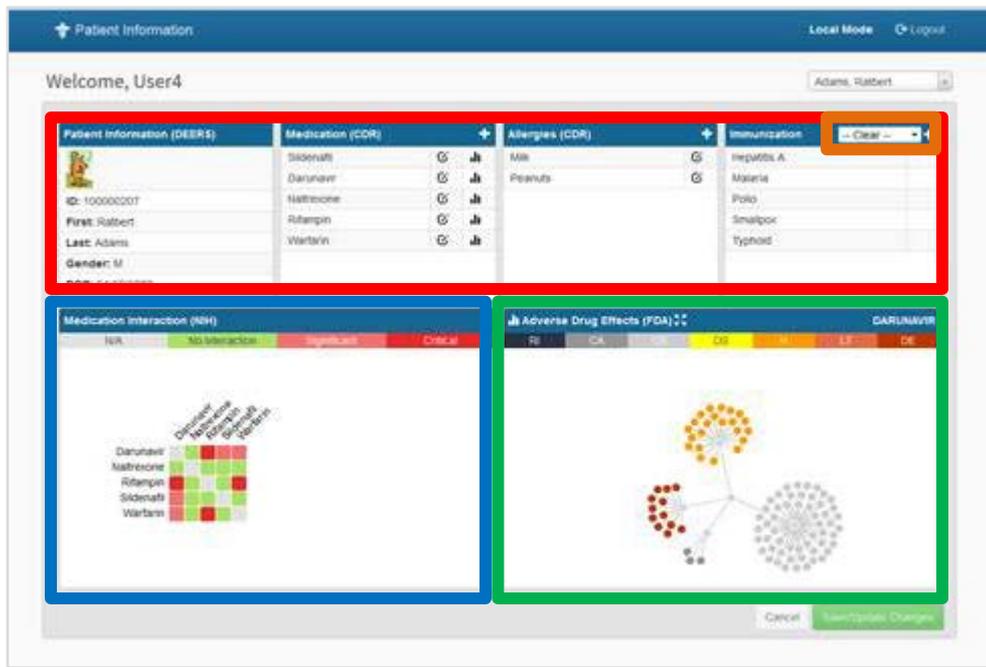
## “Art of the Possible” for Immunizations



- Support patient safety through enhanced insights and analytics
- Identify immunizations required for a specific deployment location
- Enable visualizations and disparate data ‘mash-ups’ for real time knowledge
- Visualize interactions among multiple medications
- Research FDA reported adverse drug effect outcomes



- Data Feeds**
- Clinical Data Repository (CDR)
  - Application Data Siloes
  - External Data Feeds
  - DEERS
  - Service Systems (MODS/ MEDPROS, AF/CITA)
  - Centers for Disease Control and Prevention (CDC) – Travel Data
  - NIH’s National Drug File – Reference Terminology service API
  - Food and Drug Administration



The screenshot displays a patient information system interface. At the top, it says 'Patient Information' and 'Local Mode'. Below that, it says 'Welcome, User4' and 'Adams, Robert'. The main area is divided into several panels:
 

- Patient Information (DEERS):** Shows patient details like ID: 100000007, First: Robert, Last: Adams, Gender: M.
- Medication (CDR):** Lists medications such as Sildenafil, Darunavir, Nafarenone, Rilampin, and Warfarin.
- Allergies (CDR):** Lists allergies like Milk and Peanuts.
- Immunization:** Lists immunizations like Hepatitis A, Malaria, Polio, Smallpox, and Typhoid.
- Medication Interaction (NIH):** A grid showing interactions between Darunavir, Nafarenone, Rilampin, Sildenafil, and Warfarin.
- Adverse Drug Effects (FDA):** A network diagram showing relationships between drugs and adverse effects.

The MHS’ technical architecture framework allows healthcare providers to leverage a variety of data sources in a consolidated view.

Together, these HIT Innovation buckets will better enable the DHA to forecast the long-term needs of the military health community.

## Benefits of a Central HIT Innovation Program

Increase focus on **long-term research needs**

**Coordinate identification** of solution needs

**Recommend solutions** to functional community

**Organization-neutral** mechanism to analyze solutions

Standardize processes and **improved agility**

Monitor active HIT Innovation pilots for **compliance**

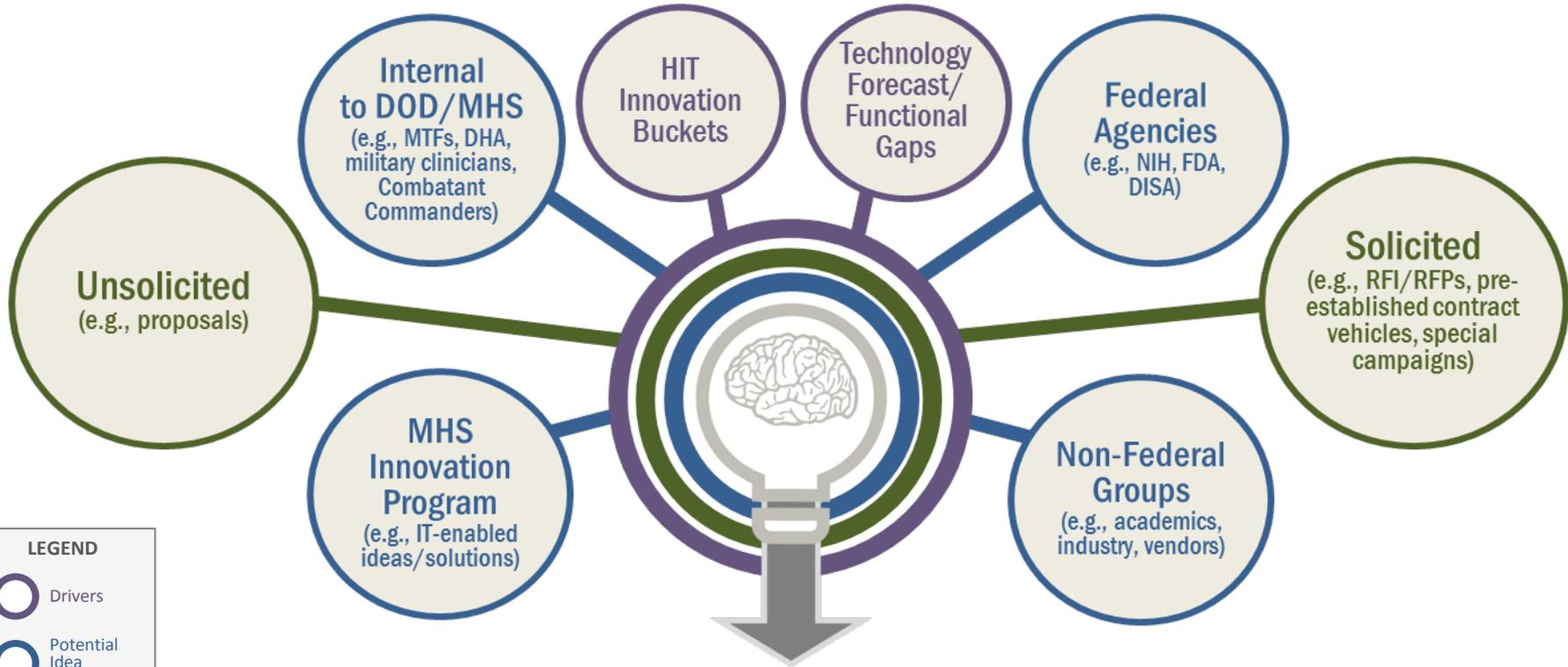
**Central tracking** and measuring of HIT research efforts

Improve ability to **transition** to Programs of Record

Expedite solutions to **Combatant Commanders**

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Based on the bucket areas, the HIP will work to orchestrate campaigns to collect and encourage ideas from internal and external communities.



Receiving/Sorting Ideas  
Ideas will be funneled through a single DHA HIT entry point to ensure the greatest transparency and awareness.

Not all submissions are guaranteed entry into the HIT Innovation Program –or- the Advanced Technology Development process. For those that are accepted, there is also no guarantee that they will be funded and/or receive approval for enterprise deployment at the end of the research/pilot phase.

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# QUESTIONS

## So how can you get involved?

Share your ideas with us at:  
[www.health.mil/innovate](http://www.health.mil/innovate)

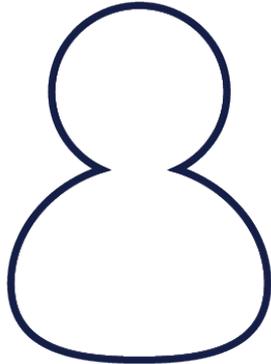


For more information please

- Email: [IATDD@dha.mil](mailto:IATDD@dha.mil)
- Visit: the IATDD kiosk
- Visit: [www.health.mil/IATDD](http://www.health.mil/IATDD)

The HIP is focused on piloting ground-breaking changes that disrupt current behavior; render existing approaches and delivery mechanisms obsolete, transforming the value proposition.

## Speaker Info



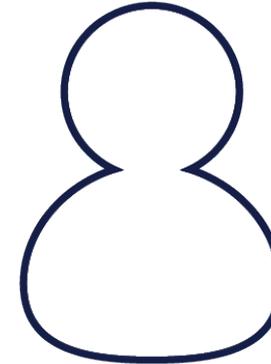
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**Please complete your evaluations**