

## 2016 Defense Health Information Technology Symposium

# HIT/Informatics Research: Highlights and Overview of CDMRP Funding



*“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

- Describe Health IT and Informatics (HITI) research focus areas and how HITI research can help meet requirements
- Report recent research products of interest to DHA/Programs and Program Offices
- Describe how program managers can develop and submit research to support their requirements
- Share past and currently funded research studies in HIT/Informatics
- Describe how to apply for research funding and how research is reviewed and selected by the Congressionally Directed Medical Research Programs (CDMRP)

# Agenda

- JPC-1 Health IT and Informatics (HITI)
  - Portfolio Description
  - FY16 Revised Research Domains and Initiatives
  - Active Research by Technology Readiness Level
  - Strategic Documentation Guiding
  - Capability Gap Alignment
  - Steering Committee Membership and Decision Factors
- Past and Currently Funded Research Studies
- Overview of Congressionally Directed Medical Research Programs (CDMRP)
  - CDMRP Funding Opportunities
  - Application Submission Process
  - DoD Funding Announcements

Technology is the  
practical application  
of scientific knowledge\*

\*ACQ 101 Fundamentals of System Acquisition Management, Lesson 11.2 - U.S. Technology Posture, Slide 5

# JPC1 Military Health System Information Technology Research Projects (MHSITRP)

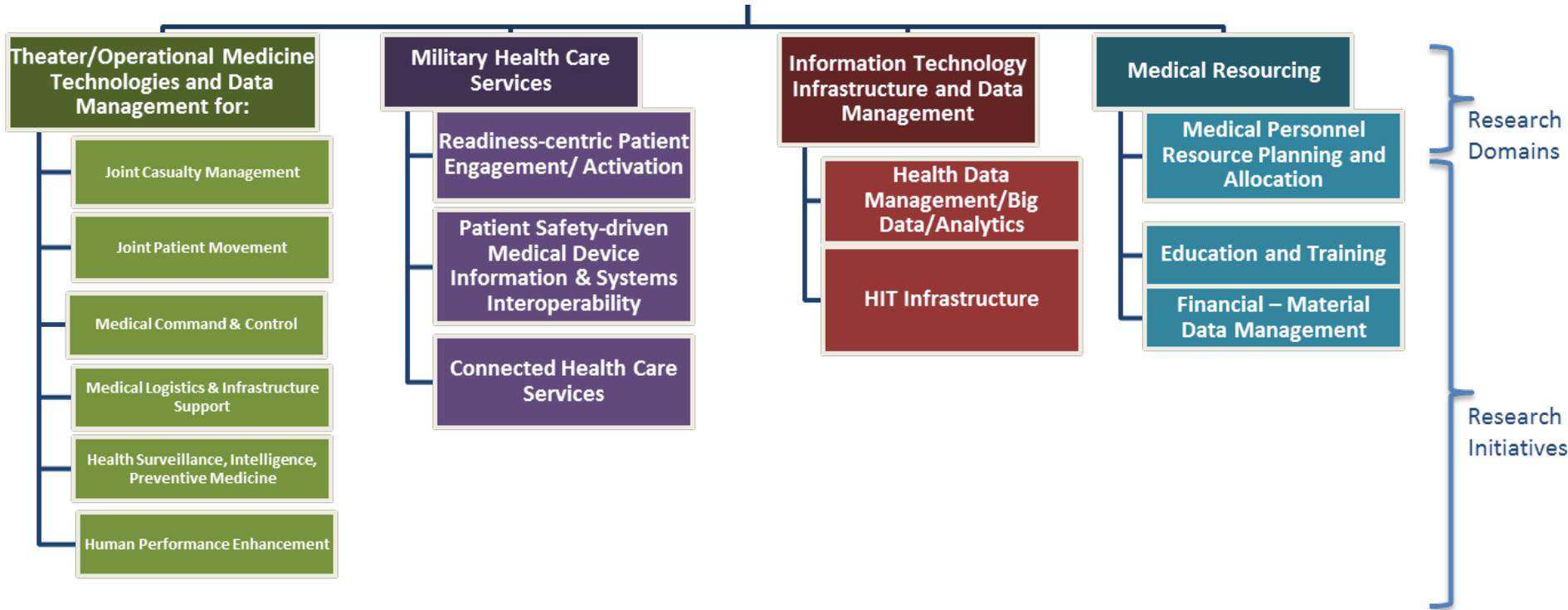


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- The Joint Program Committee 1 (JPC-1) Health IT and Informatics (HITI) Task Area manages the selection, oversight and transition of research projects/products
- Research includes studies in health information technology, informatics, data, and prototype systems
- Goals are to:
  - Increase patient safety and quality of care
  - Address MHS current and future HITI needs in theater and garrison
  - Meet military medical capability gaps and requirements based on stakeholder-driven priorities
  - Research, test and prove the maturity, usability and performance of components and subsystems prior to integrating them into live environments to reduce risk to MAIS and the MHS enterprise

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# HITI Fiscal Year 2016 (FY16) Research Domains and Initiatives



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# HITI Active Research by Technology Readiness Level



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Task & Sub-Task	Basic Tech Research		Technology Development		Technology Demonstration		System Development		Launch
	TRL 1	TRL 2	TRL 3	TRL 4	TRL 5	TRL 6	TRL 7	TRL 8	TRL 9
Military Health Services: <b>Big Data/Analytics</b>					2	2			
Military Health Services: <b>End User Usability</b>				1	1	1			
Military Health Services: <b>Medical Device Information</b>					1	1			
Military Health Services: <b>Mobile Environment</b>					1				
Military Health Services: <b>Patient Engagement/Activation</b>					1	1			
IT Infrastructure and Data Management: <b>Enterprise Architecture</b>				1	2	2			
IT Infrastructure and Data Management: <b>Health Data Management</b>					2				
IT Infrastructure and Data Management: <b>HIT Infrastructure</b>					1				
Medical Resourcing: <b>Education and Training</b>					1	1			
Theater/ Operational Medicine: <b>Medical Logistics</b>					2				
Theater/ Operational Medicine: <b>Humanitarian Assistance/Support Operations</b>					2	1			

**Legend**

- Military Health Care Services
- Information Technology Infrastructure and Data Management
- Medical Resourcing
- Theater/Operational Medicine

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# Strategic Documentation Guiding HITI Research



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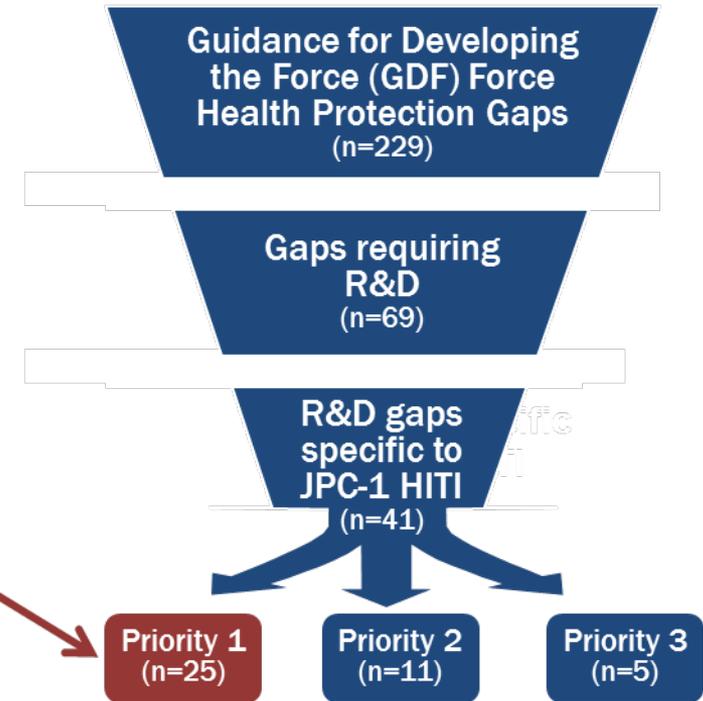
- DHA JPC Charter for Medical Simulation and Information Sciences, OSD(HA)
- DHA Research Development and Acquisition Directorate Concept of Operations (CONOPS)
- JCS Joint Concept for Health Services
- Joint Health Protection Gaps for Guidance for Developing the Force (GDF) 4.16
- 2015-2020 Military Health System Strategic Plan
- Veterans Health Act of 2015
- Health Readiness CONOPS
- Health Service Delivery CONOPS
- Health System Support CONOPS
- Force Health Protection CONOPS
- National Defense Authorization Act 2016 Section 217. Science and Technology Activities to Support Business Systems Information Technology Acquisition Programs
- Combat Casualty Care Initial Capabilities Document (ICD)
- Theater Medical Information Requirements (TMIR) Draft Capability Development Document (CDD)

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# Narrowing Research Gaps and Research Focus

## Joint Concept for Health Services (JCHS) (Aug 2015):

- Care dispersed over long distances
- Increased medical capability with smaller footprint
- Global network of Health Service Nodes
- Global synchronization
- Interoperable medical capabilities
- Prolonged care in place
- Technology focused



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# JPC1 HITI Steering Committee Membership

## Chair: DHA IT Representative

### Voting Members

- Office of the Army Surgeon General
- Office of the Navy Surgeon General
- Office of the Air Force Surgeon General
- Office of the Joint Staff Surgeon
- Office of the Director,  
DHA Health Information Technology (HIT)
- Office of the Director, DHA Healthcare  
Operations
- Office of the Director, DHA Business Support
- PEO Defense Healthcare Management Systems
- Office of the Director, JPC1
- DHA HIT Directorate  
for Solution Delivery (PEO)



### Advisory Members

- Health Affairs Clinical Policy
- Veterans Health Administration
- DHA HIT Directorate, Information Delivery
- DHA HIT Directorate, Infrastructure & Operations
- DHA HIT Directorate, Cyber Security
- DHA HIT Directorate, Portfolio Management &  
Customer Relations
- DHA Component Acquisition Execution (CAE)
- Pacific Joint Information Technology Center
- Army Telemedicine and Advanced Technology  
Research Center (TATRC)
- Office of Naval Research (ONR)
- Air Force Medical Research Organization
- Department of Veteran Affairs
- Transition Managers JPC1 and DHA HIT
- DHA Telehealth Working Group

# JPC-1 Steering Committee Decision Factors

- ✓ Does the research meet a Capability Gap?
- ✓ Is the proposed project actually research vs operational or infrastructure improvement?
- ✓ Does the research fit the HIT Roadmap (meet swim lane, fill priority area on the roadmap, enhance portfolio mix)?
- ✓ Is the Period of Performance < 2 years (in general)?
- ✓ Is the budget <\$2 Million (in general)?
- ✓ Does DHA have a need for the research outcomes (knowledge, product, material, software, etc.)?
- ✓ Does the proposed project duplicate efforts already underway elsewhere in DoD or in the pipeline in other program offices?



# Past and Currently Funded Research Studies (1 of 3)



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- **Geographic Utilization of Artificial Intelligence in Real-Time for Disease Identification and Notification (GUARDIAN):** A real-time, scalable, flexible syndromic surveillance system; tested and validated on biological threat agents and naturally occurring diseases, satisfies Meaningful Use criteria for public health objectives and reporting; ONC Certified EHR Technology; utilizes Bayesian inference, regression analysis, and natural language processing to interpret structured/unstructured patient data in real-time. *(EndsSept2016)*
- **A Cooperative Communication System for the Advancement of Safe, Effective, and Efficient Patient Care: Software and display tool.** Research to develop a joint communications model to provide information integration, and communication among staff for critically ill burn patients across disparate IT solutions that provide electronic documentation, order entry and clinical decision making. *(EndsFeb2016)*

# Past and Currently Funded Research Studies (2 of 3)



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- **Remediation-Oriented Cohort Builder for Healthcare Quality Assurance: A remediation-oriented cohort builder tool** capable of supporting direct use by medical staff in the clinical and operational analysis of healthcare data resources through patient timeline visualization, and for the ability to work effectively with very large healthcare databases. *(EndsFeb2017)*
- **Medical Cloud Connectivity for Combat Casualty Care (MC5): Theater electronic health record demonstration.** A working simulated surrogate cloud based digital medical documentation for Theater, using PM MC4 web portal version of AHLTA-T, the TATRC AHLTA Early Stage Platform (ESP), and PJITC training Theater Medical Data Store (TMDS). *(EndsSept2017)*

- **Intelligent Focused Assessment of Ultrasonography for Trauma (iFAST):** A tablet like device loaded with analytical software; a noninvasive diagnostic tool for seriously injured persons in the ‘golden hour’. Portable instrument consists of a video image processor and one or more ultrasound transducers. Application software provides automatic recognition and cueing of pathological features in ultrasonic images and videos, together with an intelligent tutor capability for self-training and can easily provide early diagnosis of human subjects who arrive with chest and abdominal injuries indicating possible pneumo/hemothorax of fieldable ultrasonic instrument. *(Ends June 2017)*

# Outline

- Overview of the CDMRP
- CDMRP Funding Opportunities
- Application Submission Process
- DoD Funding Announcements

# WHO is the CDMRP?



**Department of Defense**



**Department of the Army**



**Army Medical Command**



**Medical Research and Materiel  
Command**



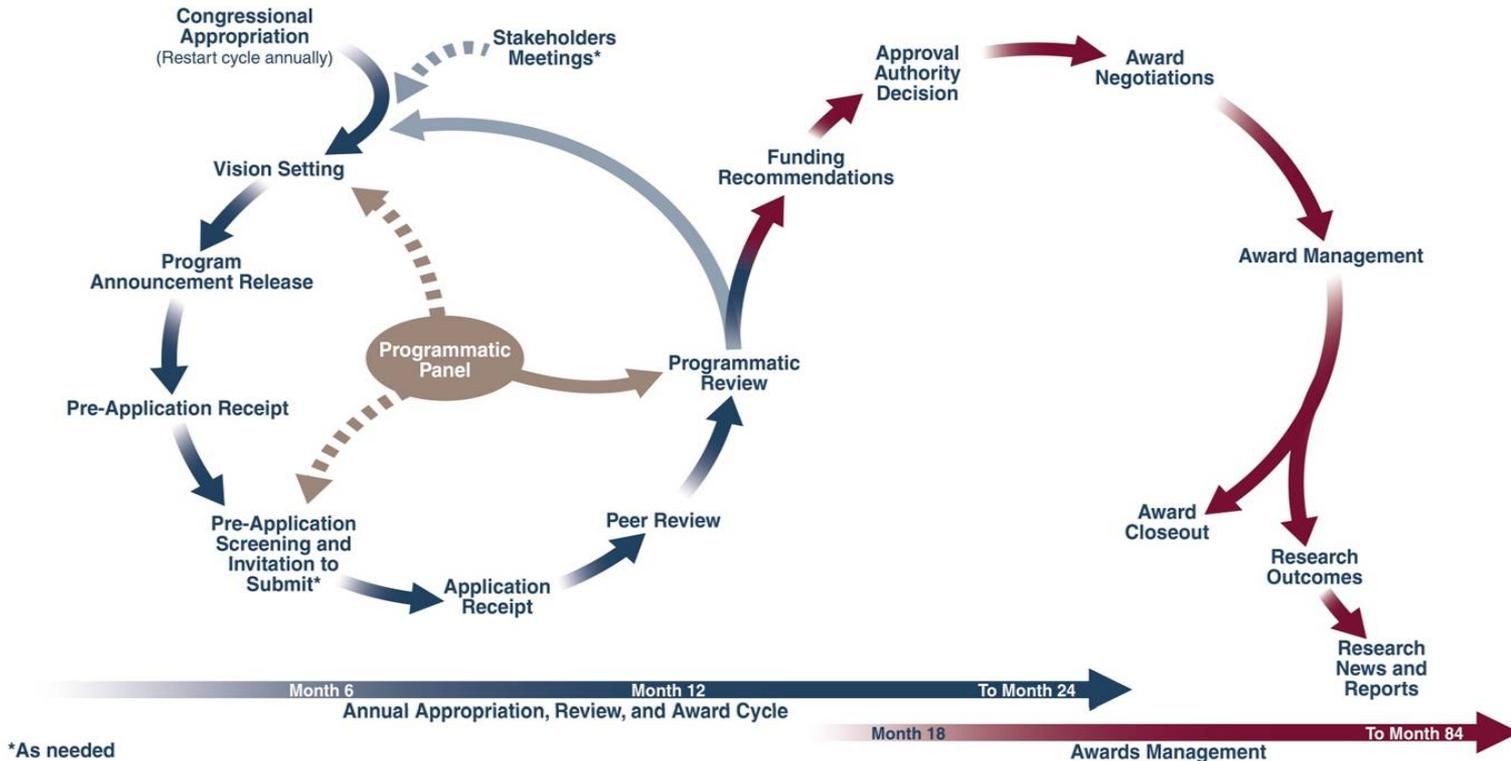
**Congressionally Directed Medical  
Research Programs**

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# CDMRP Vision and Mission Statements

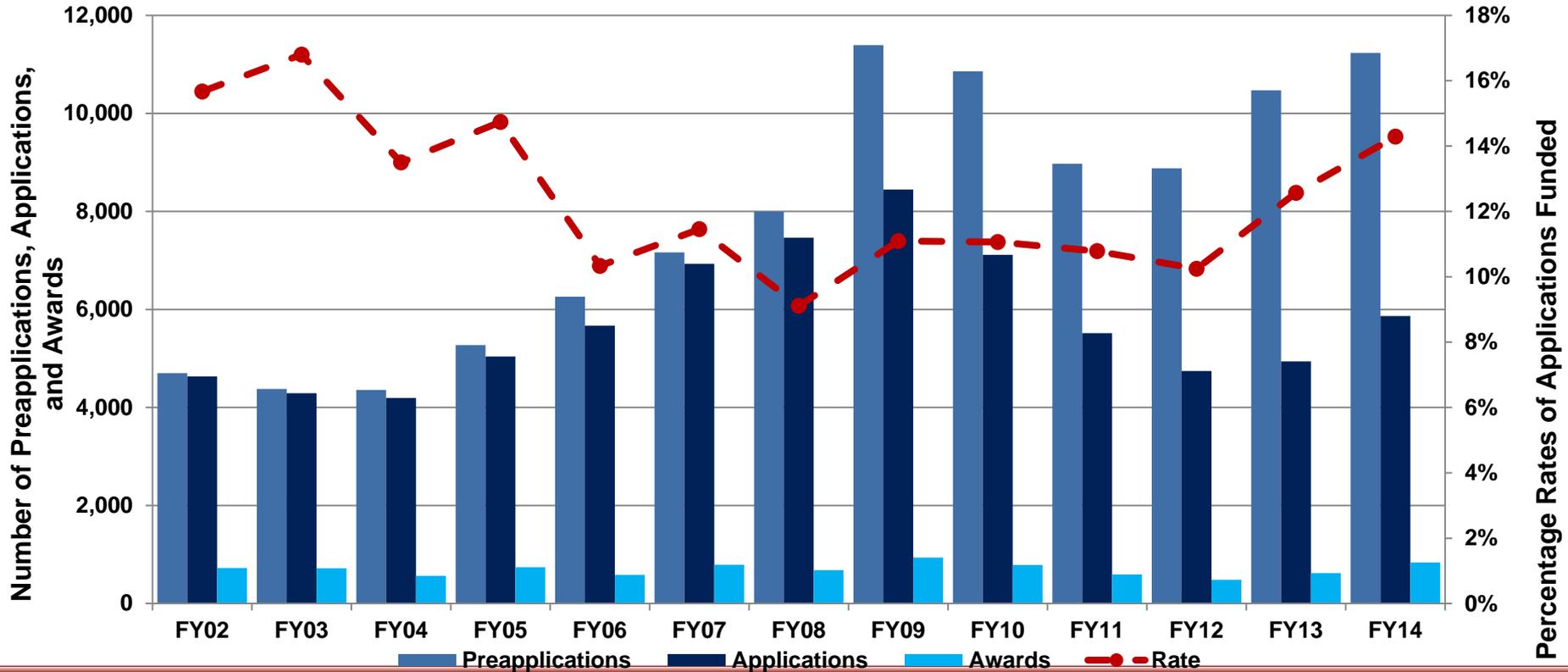
- **Vision:** Transform healthcare for Service Members and the American public through innovative and impactful research
- **Mission:** Responsibly manage collaborative research that discovers, develops, and delivers health care solutions for Service Members, Veterans and the American public

# CDMRP Program Cycle



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# Funded Awards Rate



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# Joint Program Committees (JPCs) DHP Core Research Areas



## Medical Simulation and Information Sciences (JPC-1): Medical Modeling; Simulation and Training; Health Information Technology and Informatics

- **Military Infectious Diseases (JPC-2):** Bacterial Diseases; Viral Diseases; Diagnostics Development
- **Military Operational Medicine (JPC-5):** Musculoskeletal Injury; Cognitive Health and Performance; Psychiatry and Clinical Psychology Disorders; Behavioral Health, Wellness, and Resilience; Warfighter Physical Performance; Nutrition and Weight Balance; Sensory Performance, Injury, and Protection; Millennium Cohort Study; Environmental Toxicant Exposure; Aircrew Health and Performance
- **Combat Casualty Care (JPC-6):** Damage Control Resuscitation; Neurotrauma, Neuroprotection, and Neurodiagnostics; Patient Movement/En Route Combat Casualty Care; Extremity Trauma; Systems of Critical Care Delivery; Burn Injury; Maxillofacial Trauma and Combat Dentistry; Pre-Hospital Tactical Combat Casualty Care; Military Medical Photonics)
- **Radiation Health Effects (JPC-7):** Radiation Medical Countermeasures Development
- **Clinical & Rehabilitative Medicine (JPC-8):** Neuromusculoskeletal Rehabilitation; Pain Management; Regenerative and Rehabilitative Medicine; Sensory Systems (Vision, Hearing, and Balance)

## FY16-17 Topic Areas for JPC-1 Funded awards

- Adaptive Tutor Using Methodologies for Neuroplasticity \$3.0M (2)
- Metrics: Transitioning Training to Reality \$3.2M (2)
- Medical Decision Aids – Predictive Markers \$2.4M (4)
- Predictive Personality & Emotional State Performance Determinants \$2.5M (2)
- Inter-Professional Team-based Learning in Early Stage of Learning \$2.4M (2)
- Health Informatics and Information Technology (Intra) \$5M (6-8)
- Theater/Operational Medicine Initiative \$15M (4)
- Hands-Free Electronic Health Record Data Entry Initiative \$15M (4)

**\*\*\*\*Watch for upcoming Program Announcements\*\*\*\***

# Career Development and Research Awards



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## Career Development

Funding for all career stages

Predocctoral

Postdoctoral

Physician  
Scientist

New  
Investigator

Established  
Investigator



Initial Concepts

Early Ideas

Clinical/  
Translational

Team Science

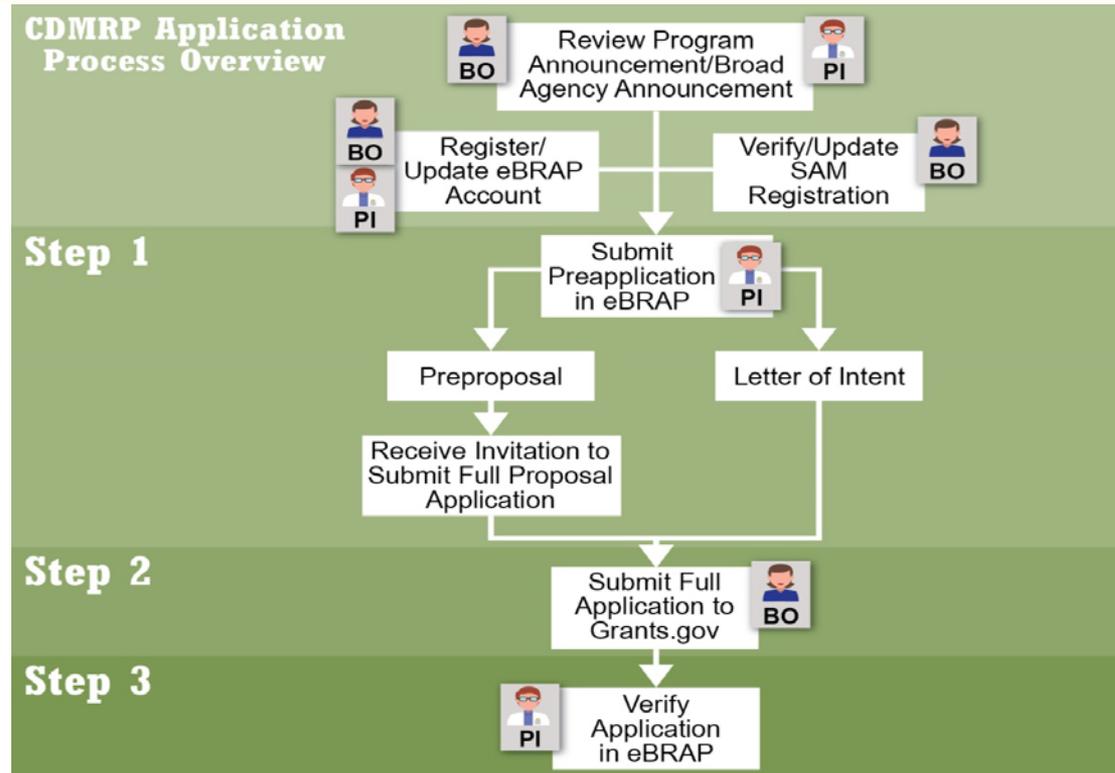
Clinical Trials

## Research Awards

Closing gaps in research through innovative and impactful research

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# CDMRP Application Process Overview



## LEGEND

- BO: Business Official from applicant organization
- PI: Principal Investigator from applicant organization
- eBRAP: CDMRP Electronic Biomedical Research Application Portal
- SAM: System of Award Management

# Goal of the Two-Tier Review Process

## Peer Review

## Partnership

## Programmatic Review

- Criterion-based evaluation of full proposal
  - Determination of “absolute” scientific merit
  - Outcome: Written critique and scores for individual criteria and overall merit
    - No standing peer review panels
    - No contact between reviewers and applicants
- Comparison among proposals of high scientific merit
  - Determination of adherence to intent and program relevance
  - Outcome: Funding recommendations
    - No “pay line” (portfolio balance)
    - Funds obligated up front; no out-year budget commitments (but milestones imposed)
    - No continuation funding

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## eBRAP (<https://ebrap.org>)

CDMRP uses the Electronic Biomedical Research Application Portal (eBRAP) to process electronic application submissions

- Enables communication with the worldwide research community
- Provides web-based accessibility for research community
  - **eBRAP requires log-in username and password**
- Computer-automated processes streamlines workflow for pre-application and full application retrieval and processing
- Enables researchers to review and modify Grants.gov application components during the verification period specified in the Program Announcement (PA) or Broad Area Announcement (BAA)

# Subscribe to ebrap.org notifications



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## Welcome to eBRAP

### Register

I am a new:

\*Select from drop down

[Start Registration](#)

### Program News and Updates

- Welcome to eBRAP. To access the user guide, please [click](#)

### Email Subscriptions

- To subscribe to program specific news and updates, please [click here](#)
- To remove your email from program subscription list, please [click here](#)

## Subscribe to News Releases

Enter your email address

Select all programs you want to subscribe to then click the Sub

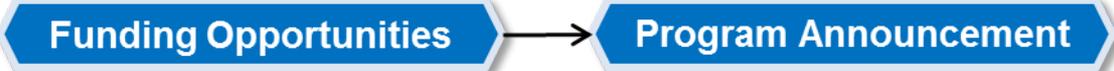
- Alcohol and Substance Abuse Research Program
- Amyotrophic Lateral Sclerosis Research Program
- Autism Research Program
- Bone Marrow Failure Research Program

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# Register on eBRAP

- User Registration
  - Principal Investigators (PI)
  - Business Officials (BO)
  - Account Administrators
  - Authorized Organizational Representatives (AOR)
- During registration, the PI must request to be affiliated with his/her organization
  - If the organization listed is not registered, the PI must invite the AOR to register the organization

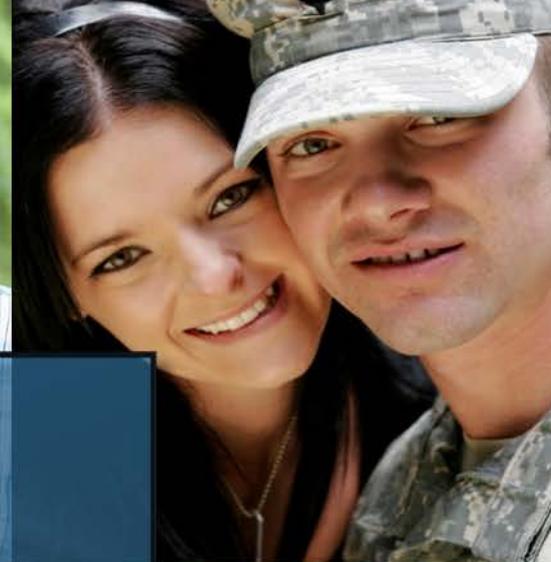
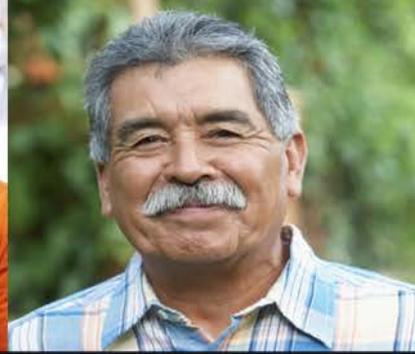
# MRMC Program Announcements

- <http://www.grants.gov>
  - Search Grants by Catalog of Federal Domestic Assistance (CFDA) number (12.420) for USAMRMC opportunities
- <http://CDMRP.army.mil>
  - Current program announcement and other information

```
graph LR; A[Funding Opportunities] --> B[Program Announcement]
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- <https://ebrap.org>
  - Current program announcement, award mechanism and related forms

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graph LR; A[Funding Opportunities and Forms]
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- **USAMRMC BAA (Broad Agency Announcement)**
  - Search for continuously open announcements to solicit extramural research and development proposal (W81XWH-16-R-BAA1)
  - <http://www.grants.gov>

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graph LR; A[SEARCH GRANTS] --> B[Funding Opp #]
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**Thank you...  
For your Service  
and Participation**



## Key Takeaways

- The JPC-1 HITI SC organizes, administers, and provides oversight for a research portfolio that studies capabilities for an ongoing transformation of health information technologies, data, analytics, or prototype systems in a high fidelity and realistic operating environment
- CDMRP is the execution management agency that manages research funding for DoD through intramural and extramural research programs in several discipline including JPC-1 HITI

# Questions?



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# Evaluations



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Please complete your evaluations

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