

2011 Military Health System Conference

Post-Traumatic Stress Innovations: U.S. Military Enterprise Analysis

The Quadruple Aim: Working Together, Achieving Success

Professor Deborah Nightingale

January 26, 2011



Lean Advancement Initiative (LAI)
and MIT Collaborative Initiatives,
Massachusetts Institute of Technology

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 26 JAN 2011		2. REPORT TYPE		3. DATES COVERED 00-00-2011 to 00-00-2011	
4. TITLE AND SUBTITLE Post-Traumatic Stress Innovations: U.S. Military Enterprise Analysis				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Massachusetts Institute of Technology,Lean Advancement Initiative (LAI) and MIT Collaborative Initiatives,Cambridge,MA,02139				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES presented at the 2011 Military Health System Conference, January 24-27, National Harbor, Maryland					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 38	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

A Collaborative Initiative



Michael Dinneen, M.D.
Director, Office of Strategy Management



Deborah Nightingale, Ph.D.,
Director

Enabling complex enterprises to effectively, efficiently, and reliably create value in rapidly changing environments



Massachusetts
Institute of
Technology



MIT COLLABORATIVE INITIATIVES

Tenley E. Albright, M.D.,
Director

Promoting a systems-based approach to solving deep-rooted societal issues by engaging experts from a broad range of disciplines both within and outside the scope of a problem.

What is the Opportunity

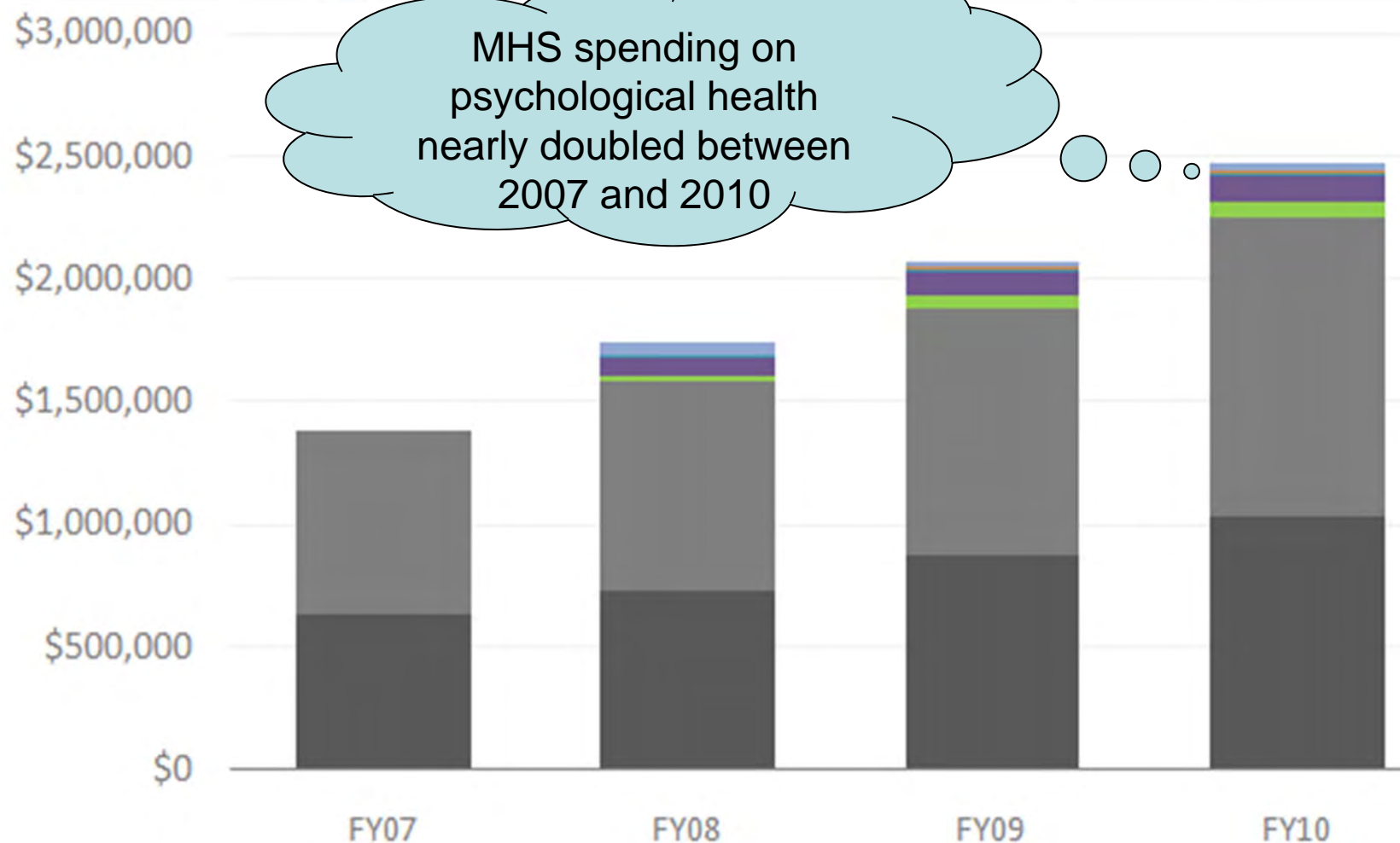


- Make sense of all psychological health activities
- Ensure that we are getting optimal value from our investment in psychological health initiatives
- Identify opportunities to improve the system of care by filling in gaps, strengthening connections and eliminating redundancy

But, how big is this opportunity?

Total PH Cost By Category

(FY07-10 in \$000s)



■ RVU/RWP Related (DC) ■ RVU/RWP Related (PC) ■ Treatment Non-RVU/RWV Related

■ Prevention ■ Screening ■ Maintenance ■ Program Support



How complicated is the challenge to rationalize all of the activities related to the management of psychological health?

What do we need?



- A whole new way to understand systems, not just activities
- “I would not give a fig for the simplicity this side of complexity, but I would give my life for the simplicity on the other side of complexity.”

Oliver Wendell Holmes

Enterprise as a System



- An enterprise requires the integration of
 - People
 - Processes
 - Organization
 - Information
 - Technology
 - Strategy
- Holistic view

An enterprise is...

“a complex, integrated, and interdependent system of people, processes, and technology that creates value as determined by its key stakeholders.

*An enterprise typically consists of **multiple organizations** (e.g., suppliers, partners, regulators) rather than a single corporation, division, or government unit.”*

Source: Nightingale and Srinivasan, “Beyond the Lean Revolution: Achieving Successful and Sustainable Enterprise Transformation”, AMACOM, In Press

Psychological Health is an Enterprise Challenge



"The current system is insufficient to meet the needs of today's forces and their beneficiaries and will not be sufficient to meet the needs of the future."



- DoD Task Force on Mental Health, 2007



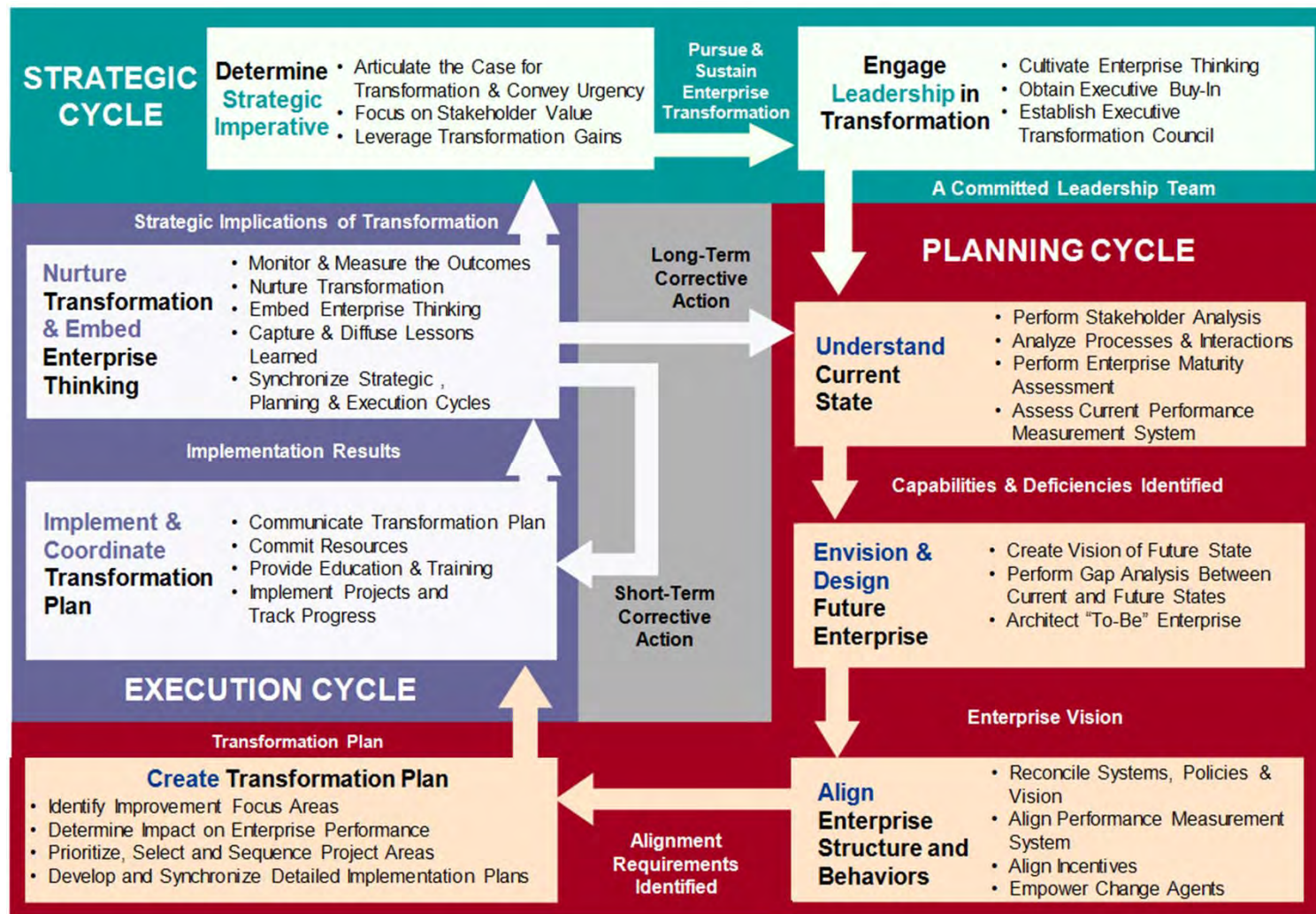
The Chairman Speaks Out on Struggle with PTSD

"This isn't just a debt of gratitude. This is a debt that must be repaid because they have sacrificed so much. They have done exactly what this country has asked. They have fought and suffered and their lives have been affected forever."

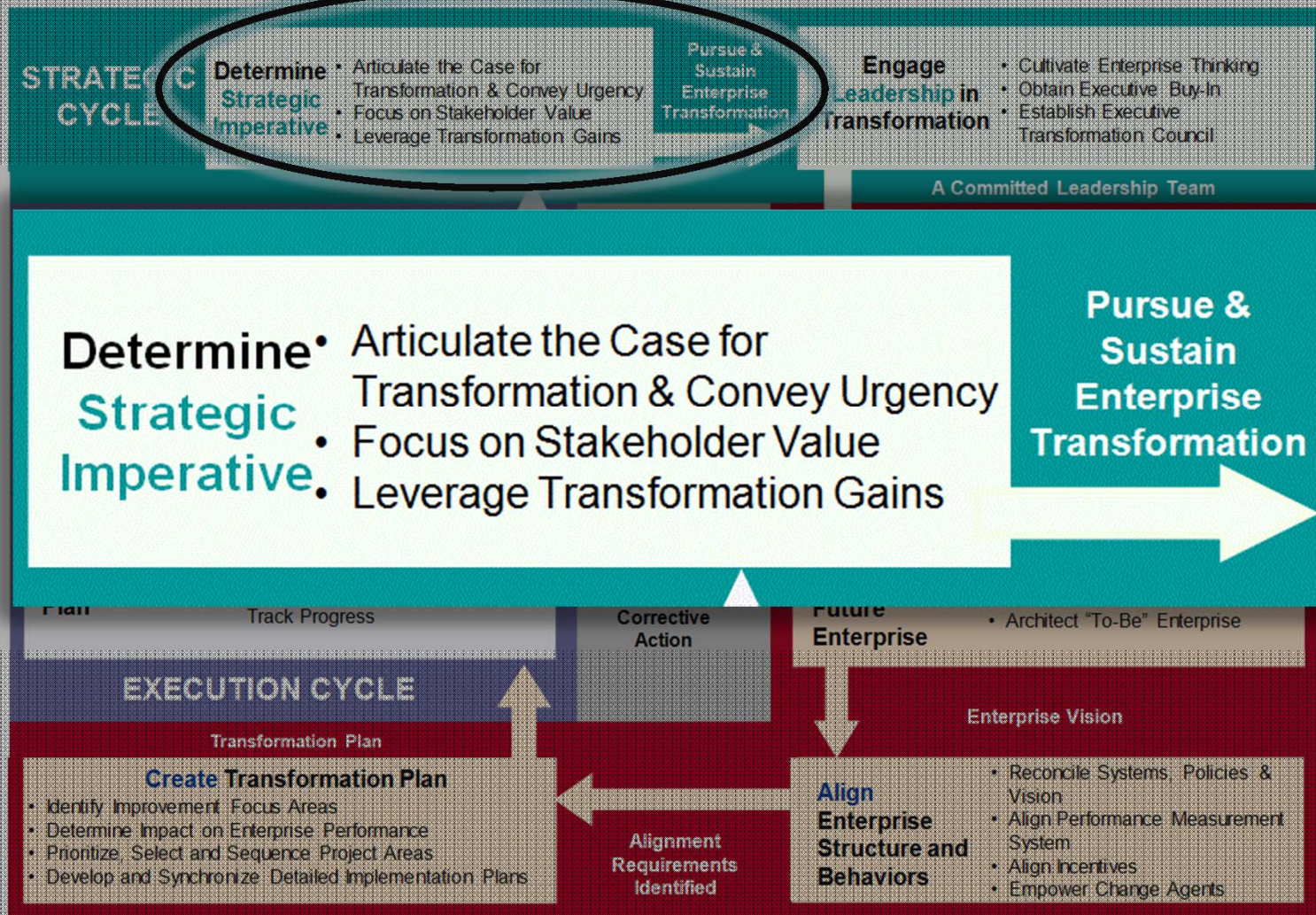


Admiral Michael Mullen
Chairman of the
Joint Chiefs of Staff
Army Times, 11-26-2008

LAI-MIT Transformation Roadmap



LAI-MIT Transformation Roadmap



PTSD: A Significant Pathology of War



5% to 20% prevalence

Over \$2 Billion Invested

Over 125 psychological
health programs

- Challenges with access to and quality of care
- Challenges with culture and stigma
- Consideration of families

Enterprise Systems Thinking is Needed for Effective Healthcare Services



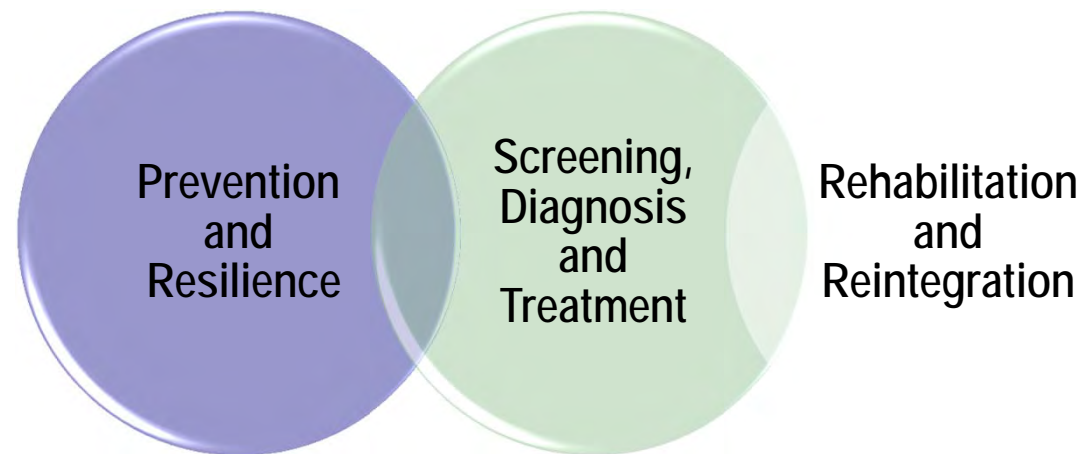
“Systems engineering has had an enormous impact in any number of fields, but it is only beginning to be applied in healthcare.

Part of the reason, I suspect, is that so many of the issues in healthcare are difficult to quantify societal questions, such as, should you spend the next marginal dollar on prevention, on research, or on treatment of the stricken?”



Norman Augustine
Retired Chairman & CEO
Lockheed Martin Corporation

PTSD prevention and care components for the full continuum of care



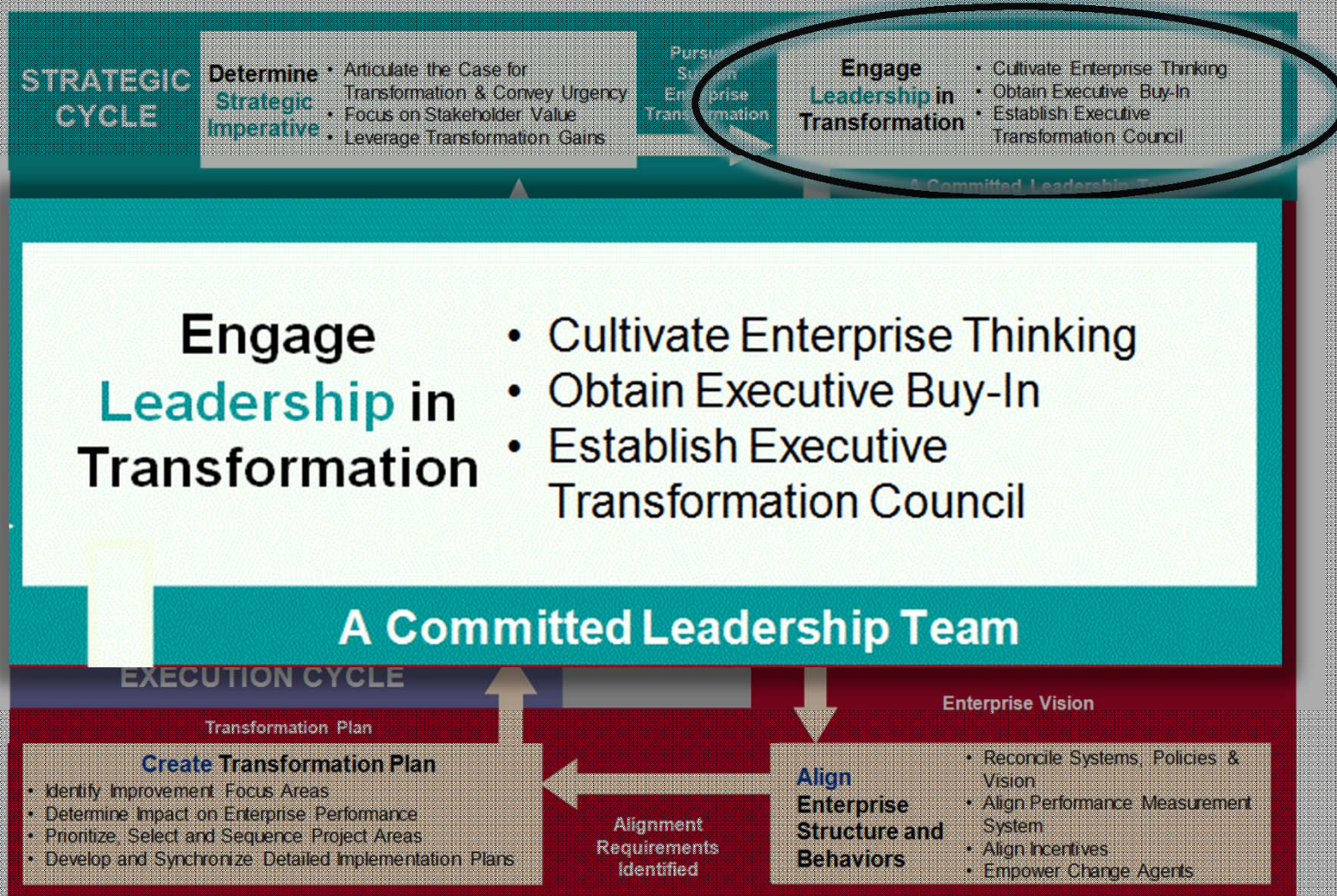
Post Traumatic Stress Innovations: U.S. Military Enterprise Analysis



Challenge:

Develop innovative recommendations for transforming the military enterprise to better manage post-traumatic stress, and related conditions, in support of our service members and their families

LAI-MIT Transformation Roadmap



Formal Project Kickoff: 9-28-2010



NAVY



Admiral Jonathan Greenert
Vice-Chief of Naval Operations
and
VADM Adam Robinson
Navy Surgeon General



Admiral Mike Mullen
Chairman of the
Joint Chiefs of Staff

AIR FORCE



General Howie Chandler
Vice Chief of U.S. Air Force
and
LT. General Bruce Green
Air Force Surgeon General

ARMY



General Peter Chiarelli
Vice-Chief of U.S. Army
and
Lt. Gen. Eric B. Schoomaker
Army Surgeon General

ADVISORS



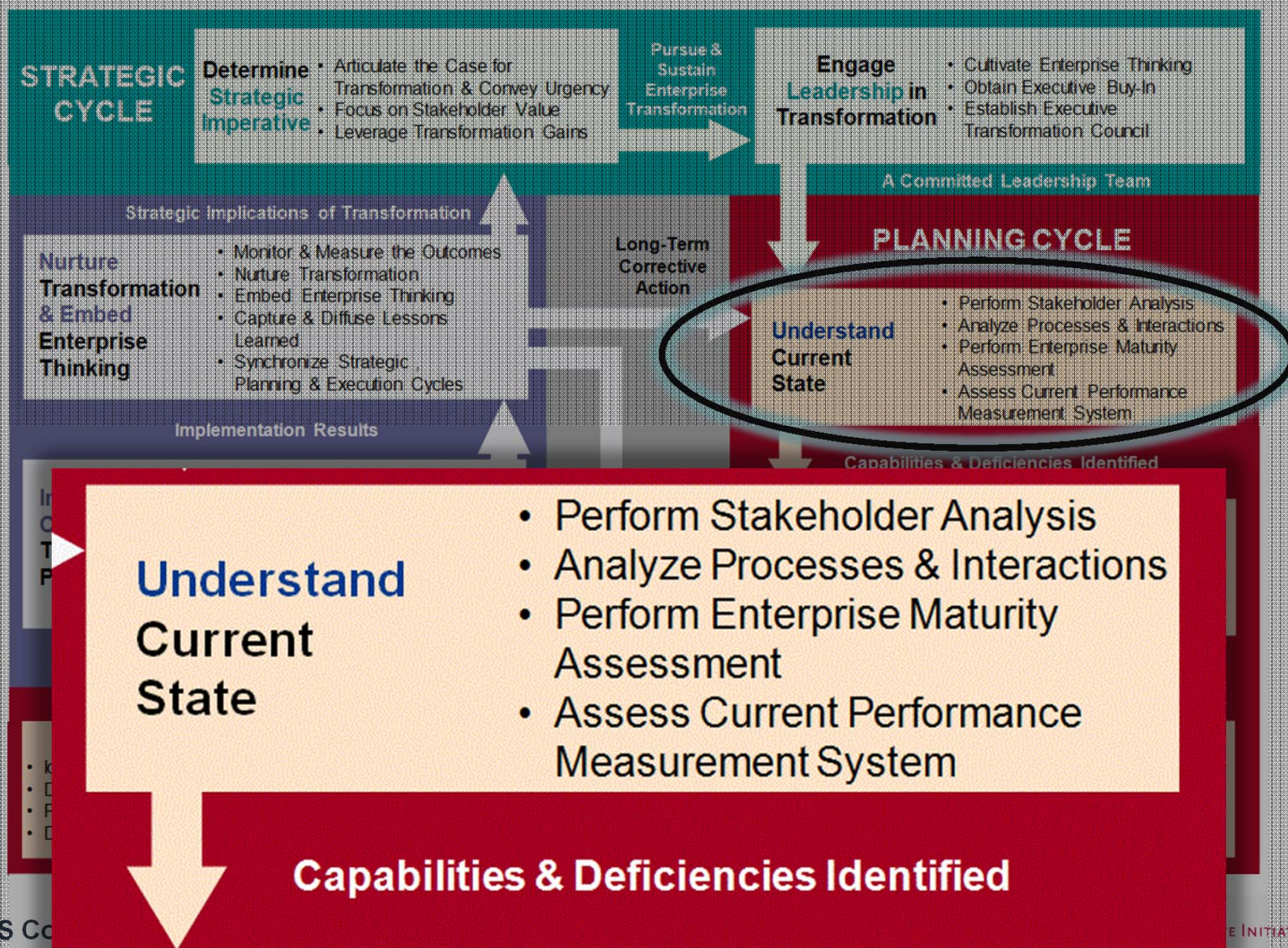
Dr. James B. Peake Lt. Gen.(ret)
Fmr. Surgeon General of the Army &
Fmr. Secretary of Veterans Affairs
and
Honorable Togo West
Fmr. Secretary of the Army &
Veterans Affairs

MARINE CORPS



General James Amos,
Commandant
of the Marine Corps

LAI-MIT Transformation Roadmap



Post Traumatic Stress Innovations: U.S. Military Enterprise Analysis



LAI will perform an enterprise analysis of the continuum of services in preventing and managing Post Traumatic Stress and related conditions.

Three Phases:

- 1. Current state analysis**
- 2. Model creation and validation**
- 3. Future scenario planning and recommendations**

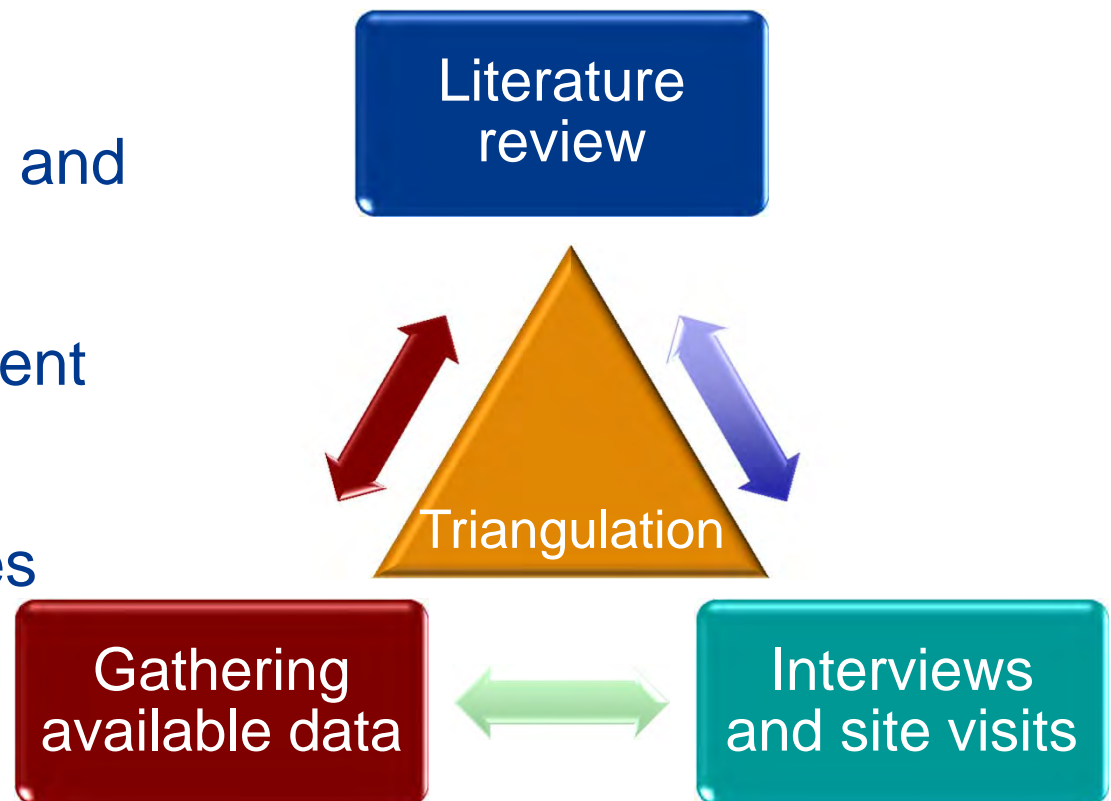
Current Stakeholder Analysis



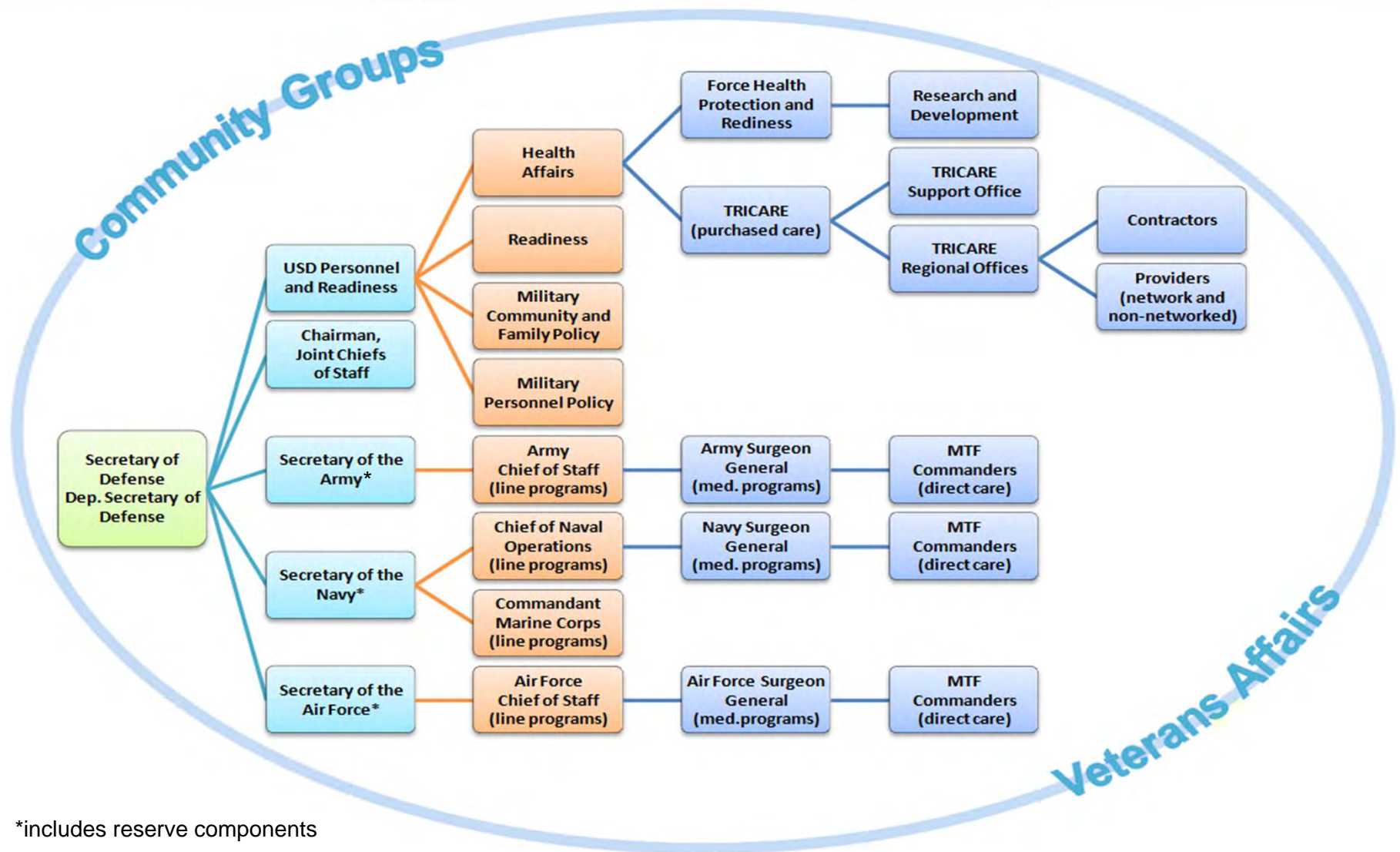
Four Areas of Interest

- Stakeholder analysis
- Enterprise organizations and processes
- Performance measurement systems
- Resources and outcomes

Research Activities



Defining the Enterprise Boundary



*includes reserve components

Key Stakeholder Groups



OSD Leadership

MHS Leadership

- Military Health System Executive Review members (MHSER)
- Senior Military Medical Advisory Council members (SMMAC)
- Integration Councils/IPTs/Workgroups

Service Leadership

- Line Leadership
- Surgeon Generals
- Installation management
- Intermediate commands

Operational

- Unit leaders
- Medics
- Chaplains

Direct Care

- MTF leadership
- Clinics
- Primary care physicians
- Specialists

Purchased Care

- TRICARE regional office
- Managed care contractor
- Individual service provider
 - Doctors
 - Social workers
 - Nurses

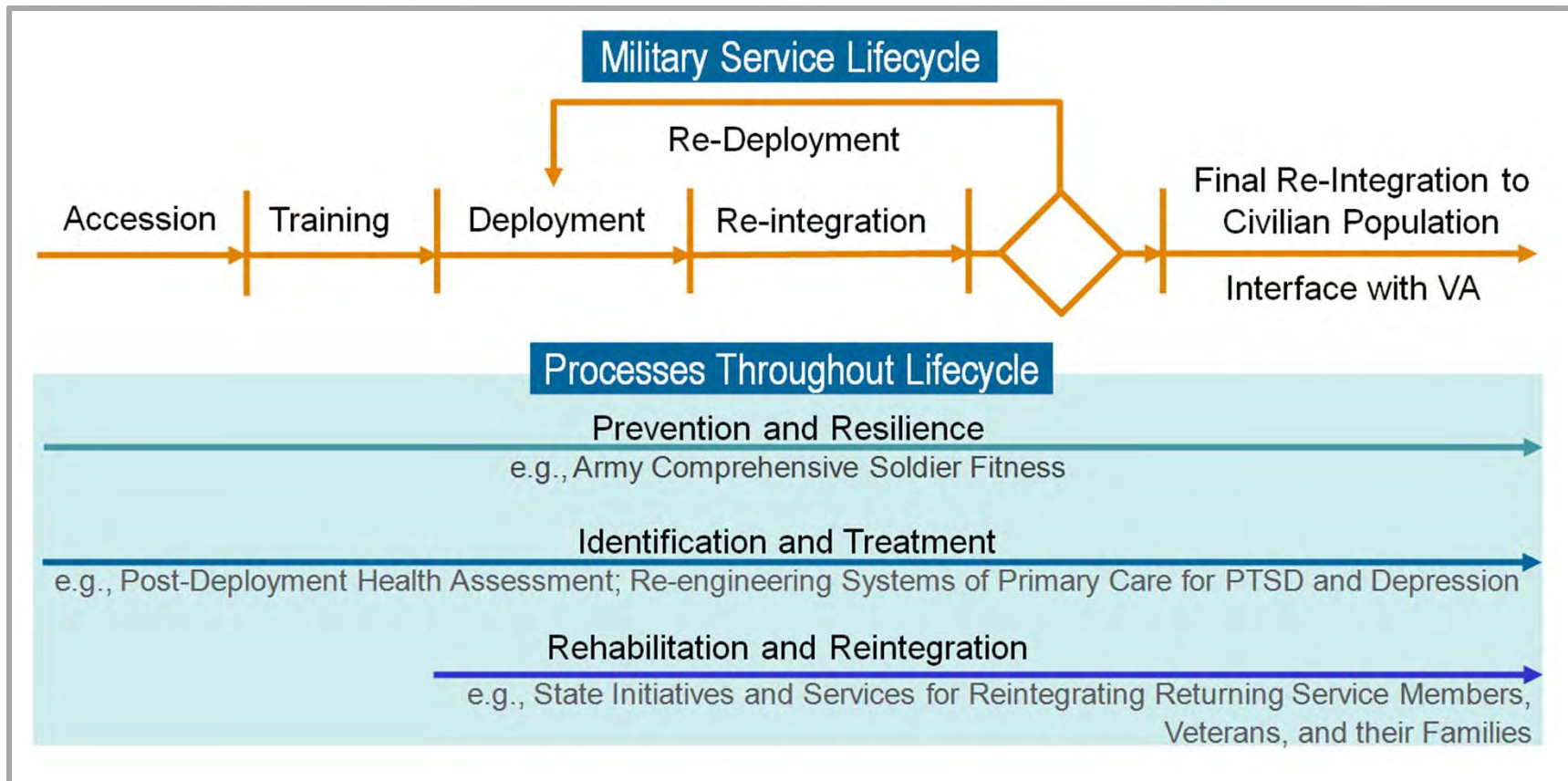
Service
Members
Families
Units

President

Congress

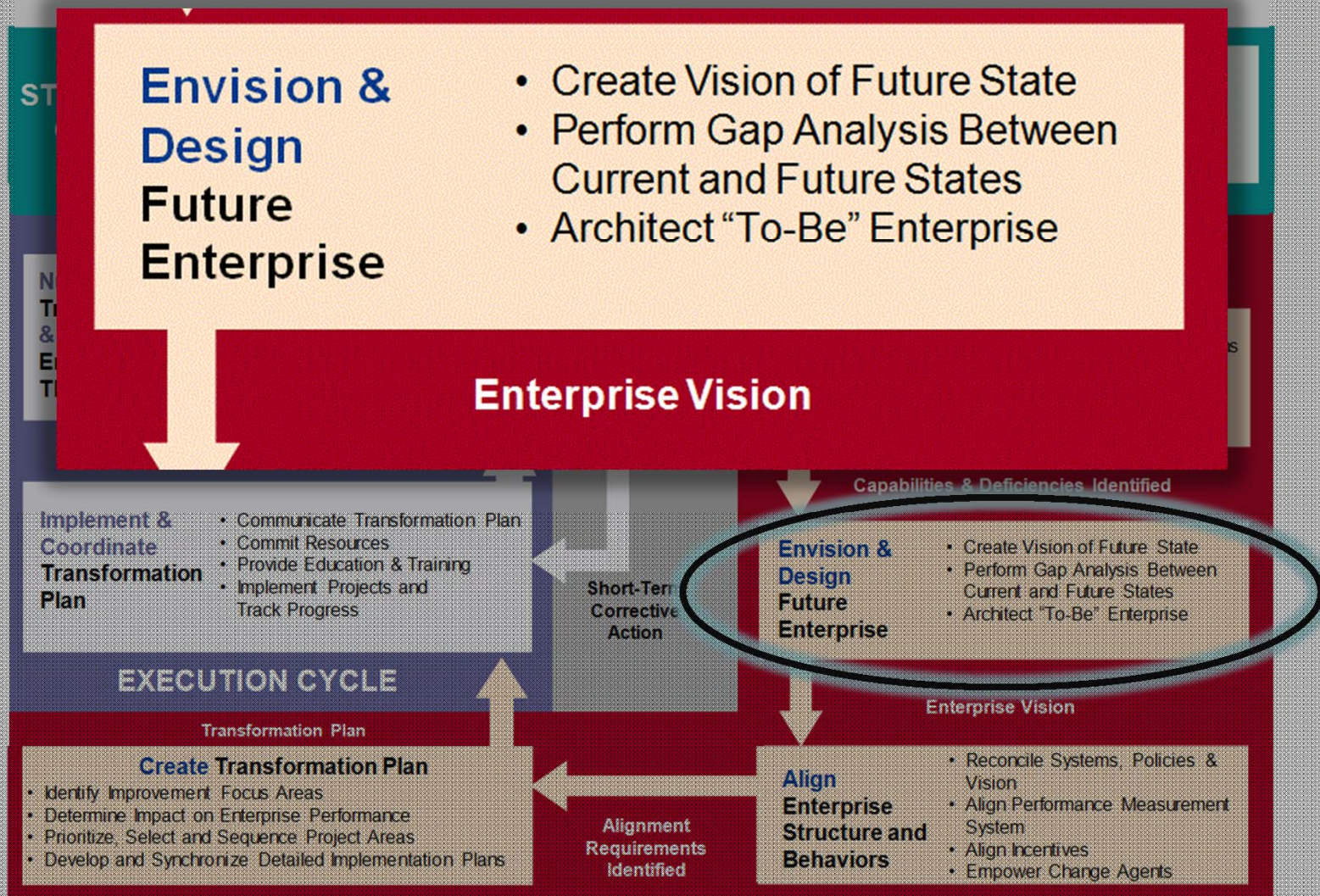
Media

Enterprise Process: A Service Member-Centric View



Holistic approach to the observation of occupational stress-related processes cross the military service lifecycle that relate both to service members and their families

LAI-MIT Transformation Roadmap



Post Traumatic Stress Innovations: U.S. Military Enterprise Analysis



LAI will perform an enterprise analysis of the continuum of services in preventing and managing Post Traumatic Stress and related conditions.

Three Phases:

- 1. Current state analysis**
- 2. Model creation and validation**
- 3. Future scenario planning and recommendations**

Planned and Existing Models



PTSD Prevention and Care Components for a Full Continuum of Care

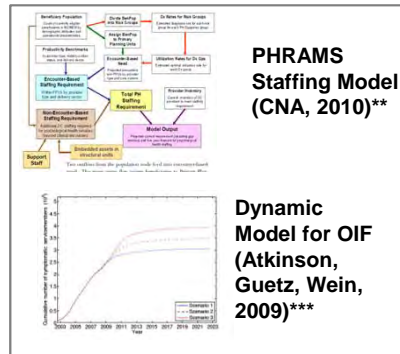
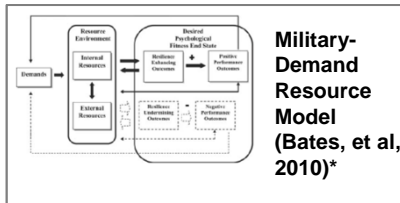
Prevention and Resilience (Active Duty)

Identification and Treatment (Active Duty)

Rehabilitation and Reintegration (Active Duty)

Identification and Treatment (Veterans)

Rehabilitation and Reintegration (Veterans)



- Intent is to build from planned and existing models to develop enterprise-level models for evaluating architectural alternatives and policy development

* Planned

** Existing - planned upgrades

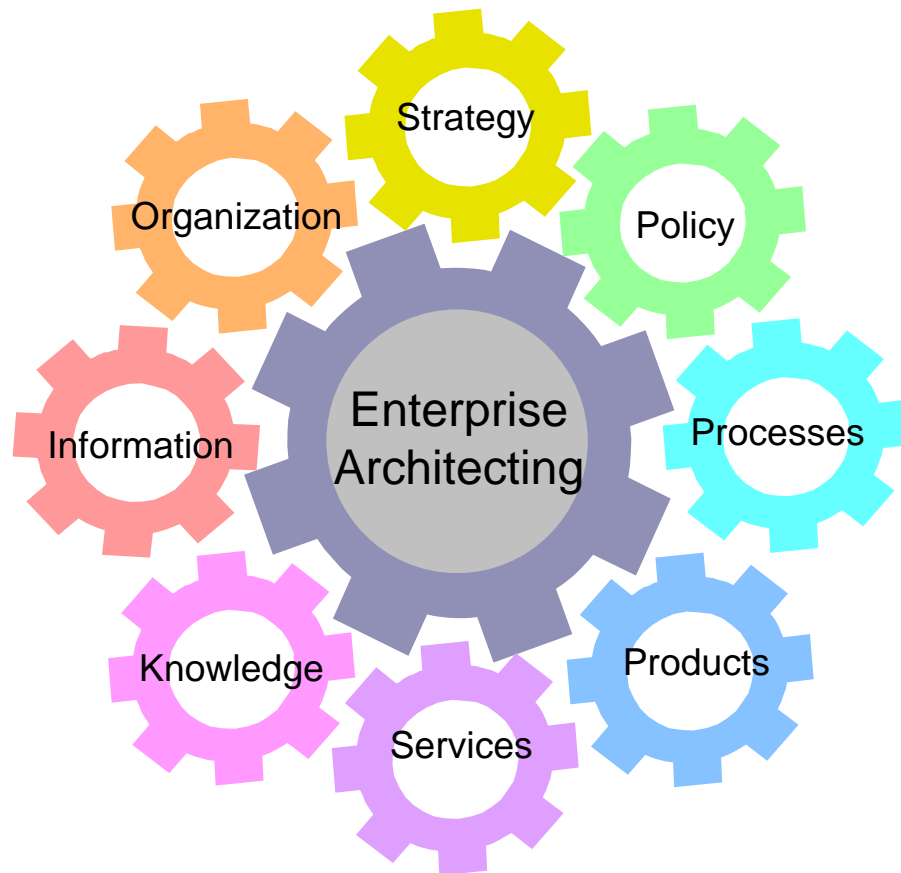
*** Existing – no planned upgrades

Motivation for Enterprise Architecting



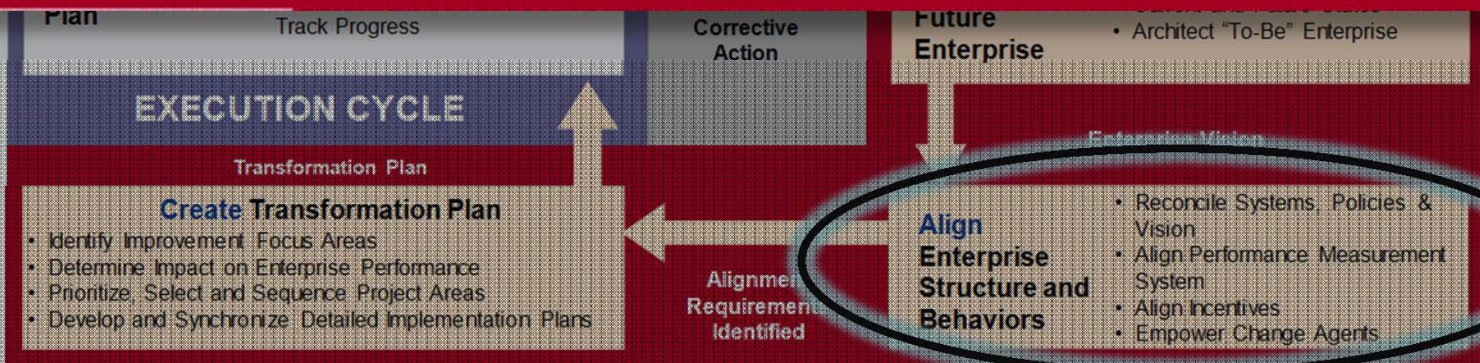
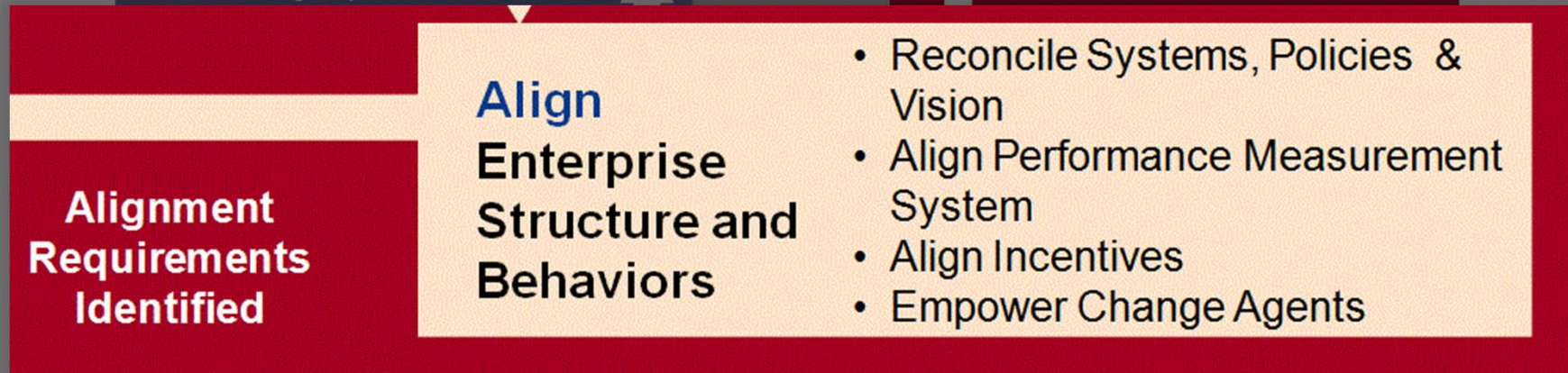
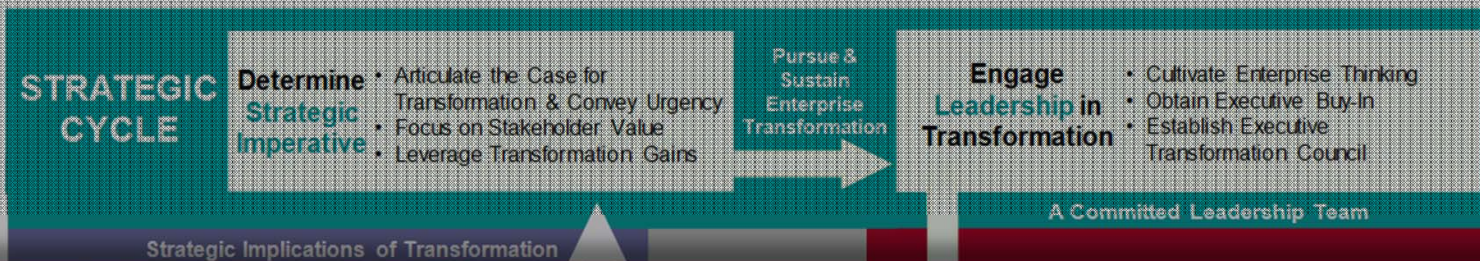
- In order to transform an enterprise we need to know not only where we are, but more importantly where we want to be (future state)
- In enterprise value analysis how do we define the “future state” of the enterprise?
- Once we define the future “vision” how do we design the enterprise?
- How do we incorporate the multiple dimensions or “views” at the enterprise level?

Enterprise Architecting Enables Greater Efficiency and Effectiveness



- Effective integration – managing complex interdependencies
- System optimization, not local optimization
- Knowledge-based enterprise capabilities
- Achieving desired future state characteristics
 - Agility
 - Flexibility
 - Reconfigurability

LAI-MIT Transformation Roadmap



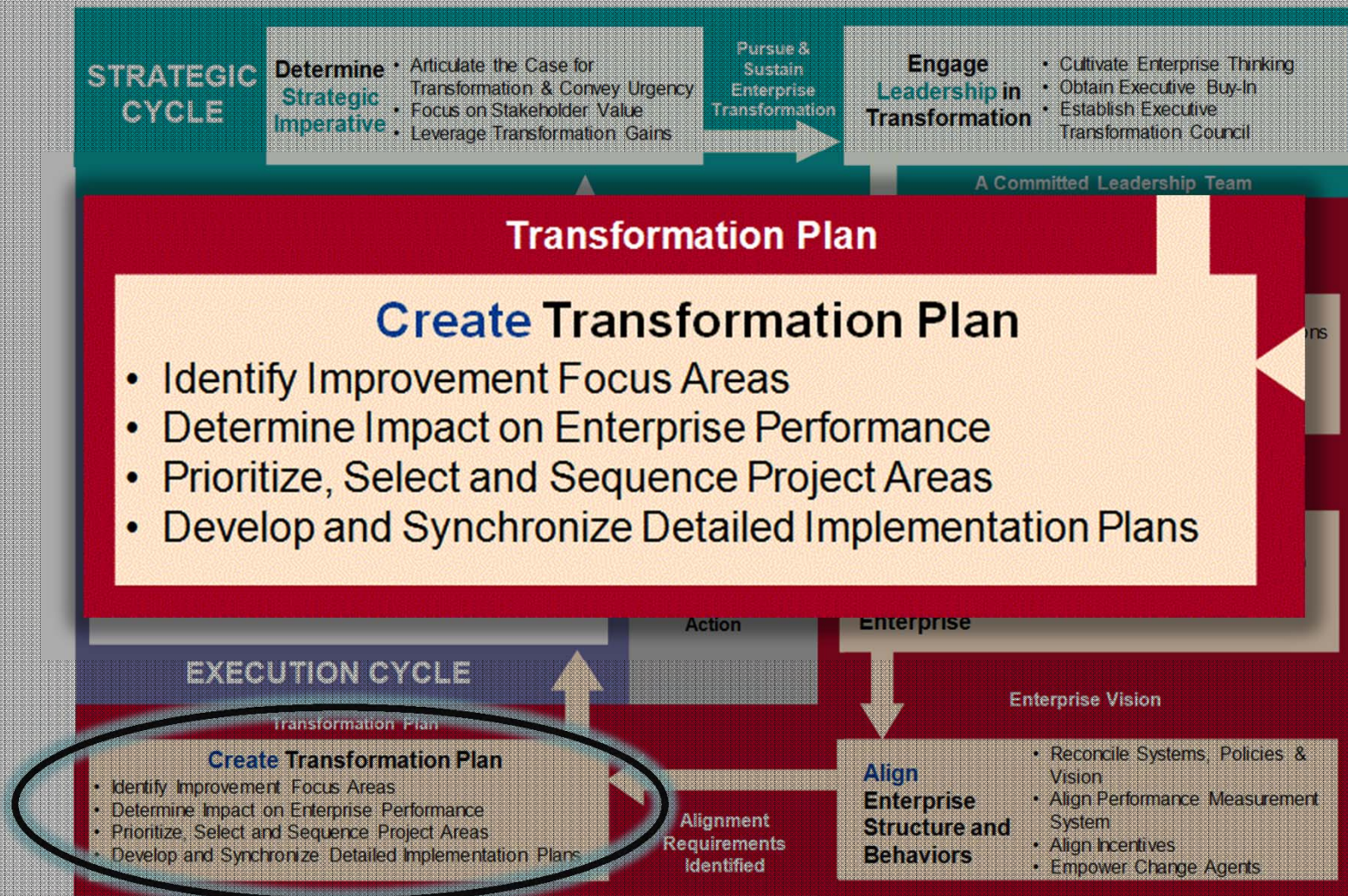
Align the PTSI Enterprise



- Match resource allocation to enterprise needs
 - Availability of treatment facilities
 - Adequacy of research and development efforts
 - Accessibility of health care providers
- Align incentives and behaviors
- Holistic alignment of strategic objectives, stakeholder values, enterprise processes and performance measures

0	0
0	0
0	0

LAI-MIT Transformation Roadmap

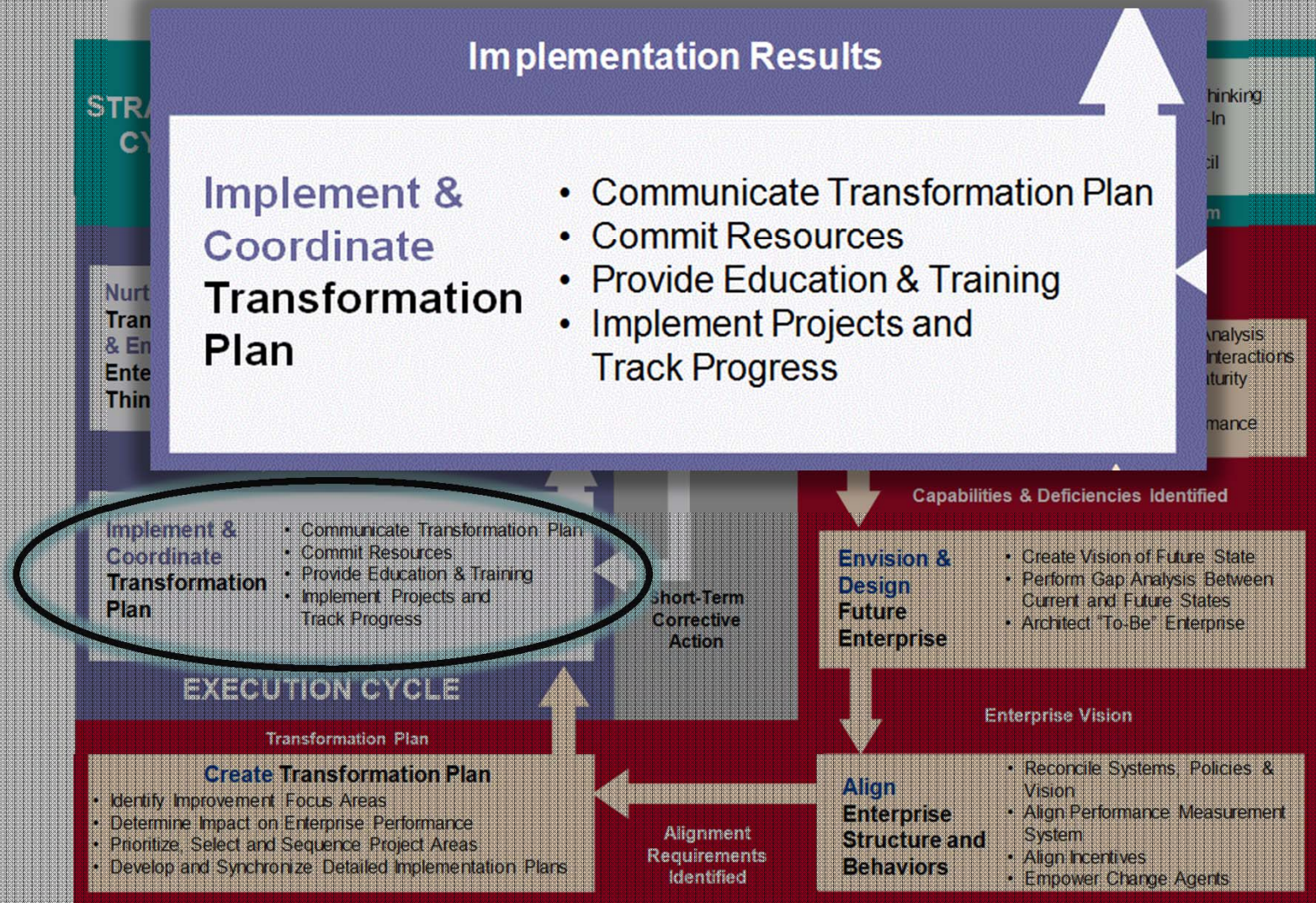


Potential Focus Areas for Improvement

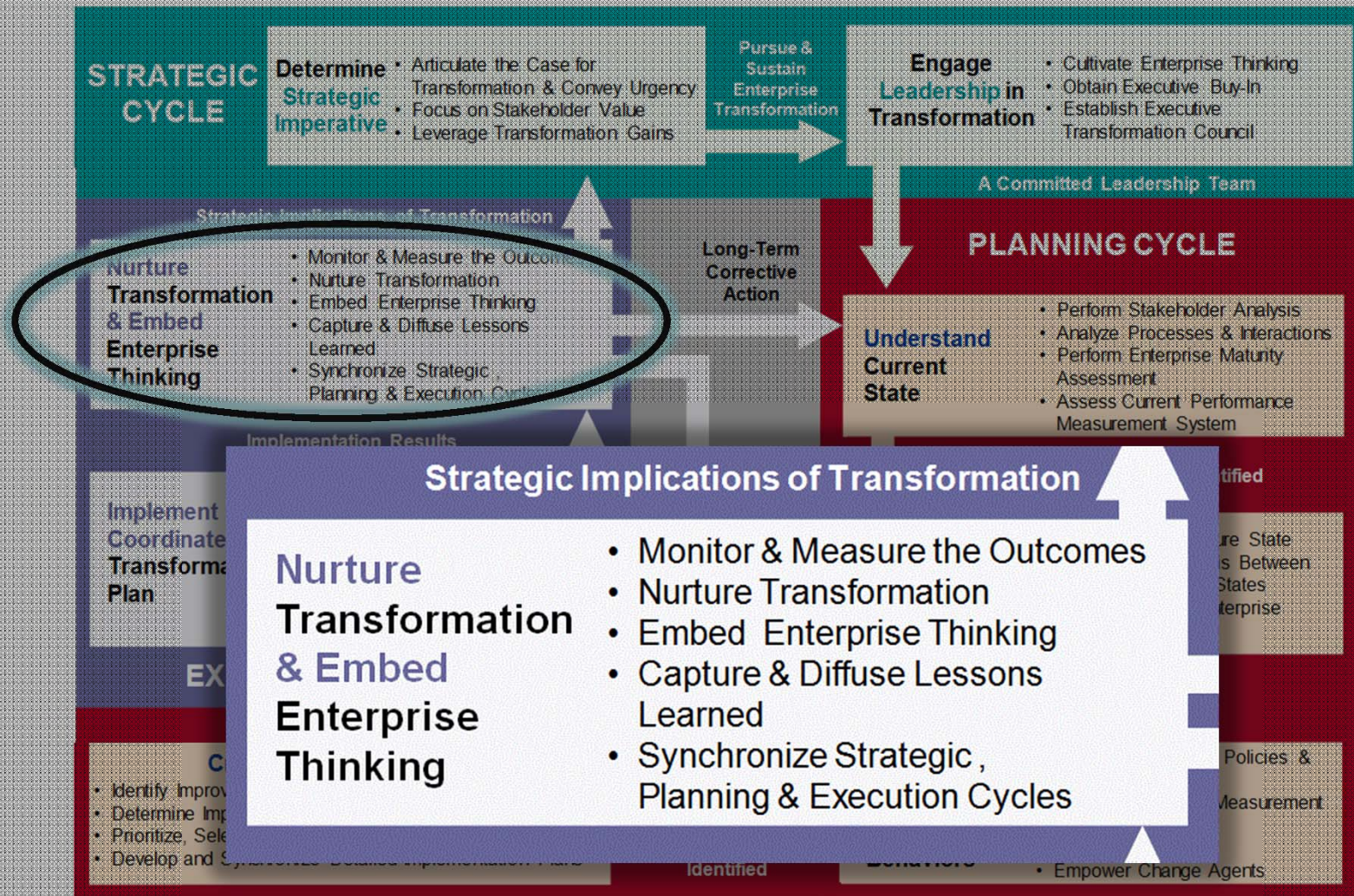


- Refine the value proposition centered around service members and their families
- Determine high-leverage opportunities for improving the continuum of care
- Revise policies and procedures to enhance system performance

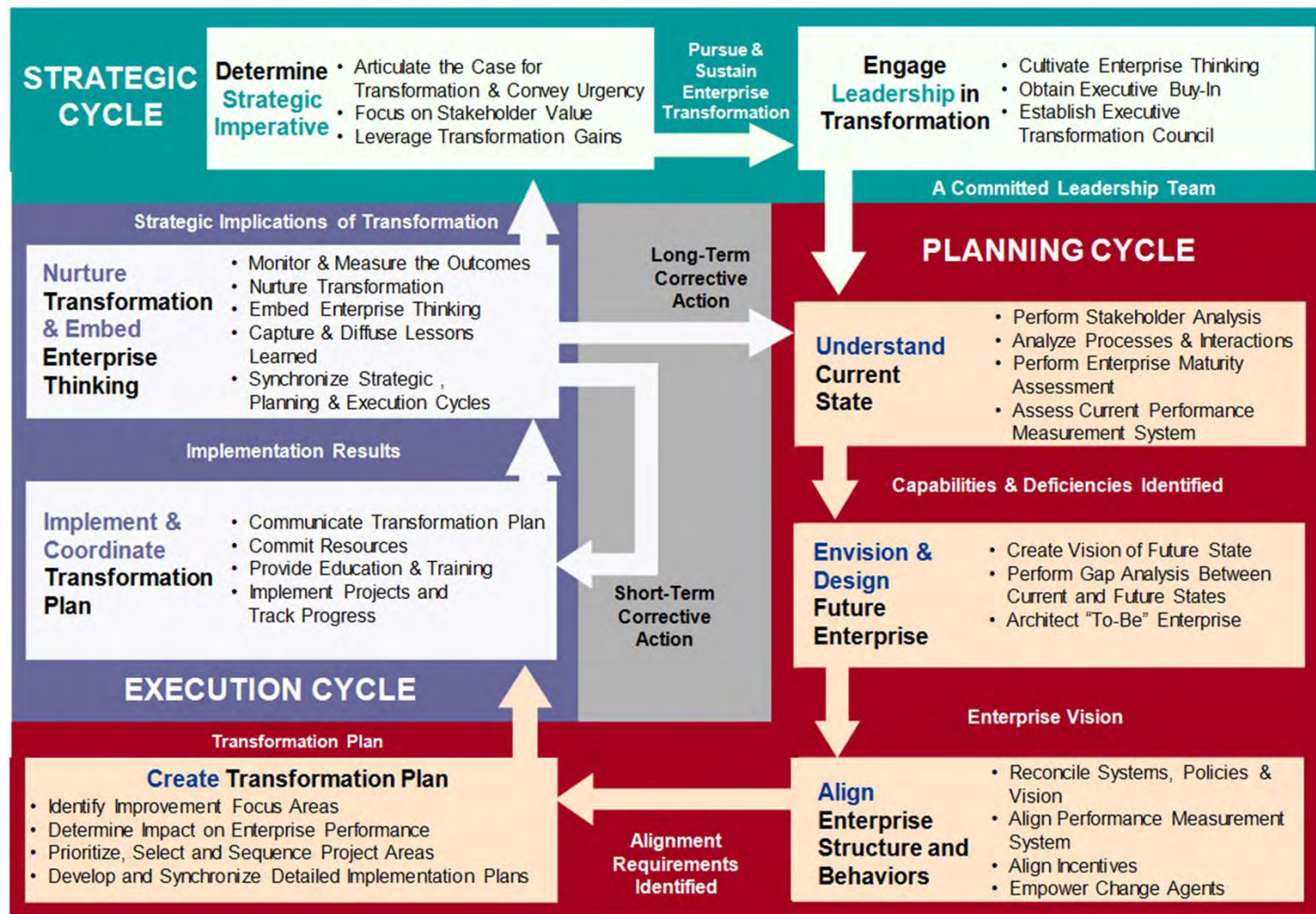
LAI-MIT Transformation Roadmap



LAI-MIT Transformation Roadmap



LAI-MIT Transformation Roadmap



Post Traumatic Stress Innovations: U.S. Military Enterprise Analysis



Challenge:

Develop innovative recommendations for transforming the military enterprise to better manage post-traumatic stress, and related conditions, in support of our service members and their families

LAI will perform an enterprise analysis of the PTSD process.

Three Phases:

1. Current state analysis
2. Model creation and validation
3. Future scenario planning and recommendations

Potential Outcomes:

- Increased understanding of the total system, including stakeholders and system performance
- Determination of high-leverage opportunities for improving the total systems
- Examination of policy and treatment implications



MIT Lean Advancement Initiative Research Team

Prof. Deborah Nightingale

Dr. Wiljeana Glover

Dr. C. Robert Kenley

Dr. Eitan Naveh

Dr. Jayakanth Srinivasan

Ms. Nicolene Hengen

Mr. Ronald Rezek

Mr. John Hess

Mr. Cody Kamin

Ms. Andrea Ippolito

Ms. Ariadne Smith

Ms. Judy Wang

Principal Investigator

Postdoctoral Associate

Research Associate

Visiting Scholar

Research Scientist

Communications and Membership Director

Research Affiliate

Research Assistant

Research Assistant

Research Assistant

Research Assistant

Research Assistant

MIT Collaborative Initiatives Team

Dr. Tenley E. Albright

Mr. Kenneth Kaplan

Ms. Eleanor Carlough

Director

Associate Director

Assistant Director



Thank you!

Professor Deborah Nightingale
Massachusetts Institute of Technology
Room 33-312
Cambridge, Massachusetts 02139
USA
617-253-7339
dnight@mit.edu

<http://lean.mit.edu>