

PTSI Project Update: Findings and Impact

MIT's three-year, \$8M research project, *Military Psychological Health Enterprise: Post-Traumatic Stress Innovations* (PTSI) began in February 2012, and is scheduled to run through January 2015.

In this update we highlight key contributions arising from our systems approach, and share major findings and examples of specific impacts our work is having in both the Army and the Marine Corps. Since the project will continue one more year, a summary of deliverables for early 2015 is also included.

Overview

The project origins can be traced back to 2007, when the DoD Task Force on Mental Health articulated a transformative vision for the Military Health System (MHS) to create a culture of support for psychological health, provide a full continuum of care, and ensure sufficient and appropriate resources, championed by visible and empowered leaders.

In response, the MIT PTSI team is applying a holistic, multidisciplinary enterprise systems approach to examine the full continuum of care for service members and their families in response to post-traumatic stress and related conditions. We are focusing on organizational policies, structures, processes, technology, information flows, resource flows, and stakeholder relationships, with a key goal of offering design options for an improved future state. The project is scheduled to continue through January 2015.

The project has four specific goals:

- Develop **models** of the current Military Psychological Health (PH) enterprise to capture the dynamic of value creation and delivery to key stakeholders.
- Determine the **levers of change** in the PH enterprise.
- Create future enterprise **designs** that better meet the quadruple aim of readiness, *per capita* cost, experience of care, and population health.
- **Prioritize and guide actions** to achieve the desired future enterprise.

Highlights

We have just completed the second year of the project. In addition to specific findings and impacts based on our work with the Army and Marine Corps, detailed below, we have found that MIT is making a unique contribution to creating a deeper understanding of psychological health care as a system in the US Military. Specifically, we provide the following:

- **Ground level access:** the team has done hundreds of interviews and surveys with both line leadership and providers at all levels, along with direct observation, providing rich perspective and solid evidence.
- **Neutral researchers:** we are focused on building publishable, evidence-based analyses supporting findings and recommendations.
- **Integration of multiple methods:** our recommendations integrate evidence from qualitative case studies, content analysis, surveys, quantitative data analysis, simulation modeling, policy document analysis, and academic literature review.
- **Multi-disciplinary approach:** our team consists of 21 researchers and students with a wide variety of backgrounds including engineering, management, and economics; many students with a healthcare and/or military background bring their experience and perspectives.
- **Service-member-centric systems approach:** our focus is on the system of care with a longitudinal perspective, not just individuals' clinical experiences, including barriers and enablers, and the impact of policies and programs.
- **Integration across multiple levels of analysis:** we link the effects of macro policies on micro-level decision-making and implementation, and describe emergent behaviors and their nonlinear effects.
- **Communication opportunities outside the traditional military structures:** the interdisciplinary and cross-Service nature of our work creates 'outside the box' communication opportunities for Service personnel at many levels, for example via our workshops and briefings, as well as more informally; this provides additional pathways for making necessary changes to the System.

Findings and Impact from our work with the Army

Our research focus with the Army is to improve the behavioral health system of care using Embedded Behavioral Health (EBH) as the focal point of the transformation efforts. In EBH, care is provided within a unit, rather than at a central site. We are comparing implementation processes and subsequent systemic and outcome changes across four Army sites (Alpha, Bravo, Charlie, Delta). We are making comparisons using both qualitative data from interviews, observations, as well as quantitative encounter data from M2 and outcome data from the Behavioral Health Data Portal (BHDP) to support our findings and recommendations.

Key findings cover the following broad areas:

- The new system of care, along with supporting information and accounting infrastructure, has improved visibility into key operational and clinical transitions. However, opportunities for improvement exist in terms of handoffs across transitions.
- High demand for care is leading to care fragmentation across the direct care and purchased care systems, making care coordination and warm handoffs challenging.
- The EBH model improves access to care (as seen through data on walk-ins with their usual provider) and reduces fragmentation of care, despite having a higher initial provider attrition rate than the traditional model.
- The inconsistent execution of battalion and brigade high-risk team meetings leads to variations in command situational awareness of Soldier wellbeing.
- Local interpretation of policy directives varies, with mixed results. For example, behavioral health departments are still unable to hire providers despite having authorization to do so; communication between the installation director for psychological health and the senior commander at an installation is inconsistent.
- Local innovations around care coordination, care delivery models and enhancing shared situational awareness across medical and command stakeholders are easy to identify, and should be replicated.

Based on these findings, as well as more detailed observations, the Army has implemented policy changes, improved procedures, and begun a variety of tactical initiatives. Examples include:

- **Army-wide directives improving communication and leadership accountability:**
 - FORSCOM directive requires bi-annual commanders' feedback on EBH rollout that installation Behavioral Health chiefs can use to improve care delivery.
 - Behavioral Health Service Line clarified clinical performance requirements for providers at all military treatment facilities (MTFs).
 - Army Surgeon General issued MEDCOM-wide policy designating the Behavioral Health Chief to be Installation Director for Psychological Health.
 - Army G-1 directive creates an Army-wide standard governance process for the Ready and Resilient Campaign (R2C) by requiring that Community Health Promotion Councils, chaired by the Senior Commander, be the integration point for management and accountability at each installation.
- **Standard Operating Procedures and cross-installation adoption of best practices:**
 - New SOPs at Site Charlie improve timeliness and coordination of inpatient-outpatient care handoffs, and better execution of battalion high-risk team meetings.



- Site Charlie and MEDCOM leadership are translating other Site Charlie best practices into SOP's for Army-wide diffusion.
- Site Delta is developing a roster of command teams to improve provider-command communication.
- Site Delta is replicating a Site Charlie system to ensure in-processing soldiers and families receive care when first joining.
- **Increasing Provider capacity:**
 - Site Charlie is creating 21 additional behavioral health slots (+20%) with moves from off-post hospital and new hires based in part on MIT field visit findings and analysis.
- **Training:**
 - Site Bravo is increasing EBH provider training to fill gaps in understanding identified in MIT's field visit.
- **DOD memo on metrics:**
 - An MIT-led workshop on outcome measures led to a DoD-wide memo on use of standard outcome measures and adoption of the BHDP as a common platform across Services.

Findings and Impact from our work with the Marine Corps and Navy Medicine

The focus of our work with the Marine Corps this past year was to assess the Psychological Health System at II MEF (Camp Lejeune area) and make recommendations for system improvements. We performed 96 interviews and administered a detailed survey, receiving over 250 survey responses from personnel sampled across locations, functions, roles, and rank. Our key findings combine qualitative and quantitative analysis and include:

- **Proliferation of programs:**
 - Awareness of programs correlates positively with rank: those of lower rank believed they knew about more programs than they actually did; Chaplains were most knowledgeable, and were also seen as being most knowledgeable by other respondents.
 - Many program metrics/scales were unused; there was a predominance of utilization metrics, with relatively few outcome or other metrics.
 - Policy formulation and dissemination macro/micro level disconnects hinder program rollout and management.
- **Information sharing** relating to psychological health of service members:
 - Extent of sharing varied by location and role.
- Reasons cited for not sharing included privacy regulation and stigma; however, even those who believed they understood HIPAA requirements showed huge variations in information sharing behavior when asked about specific examples, indicating a lack of accurate understanding that impeded effective information sharing.

- **Care Seeking stigma:**
 - Perceptions of the existence of stigma varied. Most importantly it differed by role: for example, labeling care seeking behavior as an ‘excuse’ existed only within the Line organization, and more so at lower ranks than at higher ranks.

MIT’s research has highlighted gaps as well as worthwhile practices, and also opened opportunities for better communication and collaboration between Navy and Marine Corps Psychological Health Providers and Line Leaders at both a local and HQ level. Examples of research impact include:

- **Marine Corps improvements to Psychological Health:** II MEF wrote a decision brief to improve its Psychological Health System, leveraging MIT’s analysis. Internal actions were approved in late 2013, and ACMC Gen Paxton approved six additional actions, three of which were requests for additional MIT work to be completed in 2014. II MEF level improvements are also being replicated to other MEFs.
- **Navy Medicine/Marine Corps MOU for a comprehensive Psychological Health System:** Marine Family Program Division, Marine Corps Health Services, and Navy Medicine signed a fundamental Memorandum of Understanding (MOU) to develop a Marine Corps Comprehensive Psychological Health System. This MOU both leveraged MIT’s analysis and, at the request of senior leaders, incorporated additional MIT input.
- **Increased use of Systemic enablers:** II MEF redesigned the rollout of its Integrated Clinical Management & Risk Mitigation System (ICM-RMS), a promising grass roots innovation for risk assessment and population management, to support implementing the vision described in the MOU. Actions include: (1) engaging with the Naval Health Research Center to study the ICM-RMS predictive algorithm; (2) engaging with HIPAA experts to determine ICM-RMS compliance; and (3) implementing a redesigned roll-out plan to include all Major Subordinate Commands’ phased input.
- **Changed resource allocation of Chaplains:** Chaplains emerged as the most knowledgeable and well regarded resource in the psychological health system. Yet Chaplains were in the process of being significantly reduced. However, as a result of MIT’s analysis, in late 2013 a decision was made to keep every Chaplain in II MEF.

Planned deliverables for 2015

Based on our work so far, as well as in response to specific requests by Army and Marines Leadership, we plan to finish this project by focusing on the following deliverables:

- Army:
 - **EBH rollout:** Four detailed case reports on EBH implementation rollout with qualitative and quantitative analyses to support recommendations.



- **Performance management:** Army Behavioral Health (BH) Performance Management System description.
- **Command-Provider relationship analysis.**
- **Army BH System of Care Model:** Model future state exploration, with impact analysis of BH in Primary Care.
- Marine Corps/Navy Medicine:
 - **Tricare:** Analysis of relationships between on-base and off-base care provision, including referral processes, case management practices, and the relationship between policies and their implementation.
 - **Performance measurement:** Support the development of a validated consensus-driven measurement plan to assess program effectiveness to consolidate the overly complex psychological health system.
- **Privacy regulation:** Analysis of impact of (mis)understanding privacy regulation and recommendations to mitigate issues relating to information sharing.
- Decision-focused simulation modeling:
 - **Lifetime Care model:** Frame service member-centric analysis of lifetime care: trajectories, costs, and impacts, by focusing on decisions by both the service member *and* the system in which they operate.
 - **Factors impacting lifetime care trajectories:** Create sub-models of the Lifetime Care model to better understand impacts of stigma, health state transitions, and clinician decision-making on lifetime care trajectories.

Finally, the team has completed two publications and is at work on five others, has presented at eight conferences, and students have completed eight masters' theses. Five additional masters' and doctoral theses are in process. We regularly interact with and brief senior military leadership to both seek their counsel and share findings, comprising over 60 meetings to date. For example, we met with Army Surgeon General LTG Horoho in September 2013, and with ACMC General Paxton in February 2014, both at MIT.

In summary, the value of MIT's systems approach is becoming apparent in many ways as our researchers continue to perceive common themes and identify gaps and best practices at multiple organizational levels, and to articulate how a systems approach can be applied to improve the continuity of care at the levels of Medical Treatment Facilities, off-base providers, installations, and Services. Perhaps the best evidence of progress is the acceptance and adoption of PTSI findings and recommendations at the installation and HQ levels in both the Army and Marine Corps.

There is more information available on the MIT SSRC web site:

<http://ssrc.mit.edu/research/post-traumatic-stress-innovations-us-military-enterprise-analysis>.