

# PBI NETWORK

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*PRACTICE-BASED IMPLEMENTATION*

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## Approach to Research Translation and Implementation in the Military Health System



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## **PBI Network Approach to Research Translation and Implementation in the Military Health System**

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## Introduction

Psychological health is a critical component of mission readiness for the United States (U.S.) military. Undertreated or improperly treated psychological health conditions can negatively impact service members' performance and operational effectiveness. The Department of Defense (DoD), Department of Veterans Affairs (VA), and civilian organizations have made significant investments in psychological health research; however, it can take approximately two decades before the research findings are translated into clinical practice (Morris, Wooding, & Grant, 2011). As a result, healthcare professionals may not have ready access to new evidence-based practices (EBP) that reflect the most recent scientific advancements (Institute of Medicine, 2014).

Several challenges underlie the research-to-practice gap. Barriers to research translation occur at the patient (e.g., limited access to care), provider (e.g., inability to reconcile treatment guidelines with patient preferences), and system (e.g., inadequate staffing) levels. Specific barriers to implementation in the DoD environment include insufficient time for providers to travel to trainings and receive consultation, lack of adequate resources (e.g., staff) to sustain EBP use, and limited leadership support for the use of EBPs (The Center for Deployment Psychology, 2015; Karlin et al., 2010). Identifying effective strategies to address these barriers and expand providers' access to EBPs is vital to improving care delivery and enhancing the psychological health of service members and their families.

The Practice-Based Implementation (PBI) Network at the Psychological Health Center of Excellence (PHCoE) was established to address implementation challenges in the DoD. This document describes the general translation and implementation strategies that the PBI Network uses to more rapidly and effectively bridge psychological health research and clinical practice in the Military Health System (MHS). The purpose of the document is to:

1. Summarize the evidence-based and -informed strategies that have been used to successfully support implementation in a large, complex medical system; and
2. Share best practices with stakeholders who also have a vested interest in enhancing access to EBPs for DoD providers, service members, and families.

## Background

In 2011, the DoD and VA developed a joint Integrated Mental Health Strategy (IMHS) to address the needs of the growing population of service members and veterans presenting with psychological health concerns. IMHS Strategic Action (SA) #26, Translation of Research into Practice, specifically called for the "translation of mental health-related research into new actions, programs, and policies for returning service members, veterans, and families." To address IMHS SA #26, the DoD and VA collaborated to establish the PBI Network to support rapid translation of research findings into clinical practice. Currently, each organization's branch of the PBI Network works independently to address the unique needs of its medical system; however, both branches continue to partner to share best practices and collaborate when there are relevant opportunities.

Each year, the PBI Network at PHCoE disseminates a Call for Proposals to DoD and civilian researchers and program developers to solicit recommendations for practice changes that

align to prioritized needs established by a comprehensive needs assessment. The PBI Network convenes the Practice Change Prioritization Work Group to bring together implementation science experts and senior DoD psychological health leaders to rate and prioritize the programs submitted for consideration. Then, the PBI Network briefs the Behavioral Health Clinical Community (BHCC) - which consists of DoD leaders in psychological health and each Service's Director of Psychological Health - which selects the final practice change that will be piloted in the MHS. Once a practice change is selected, the PBI Network team initiates the implementation process in order to evaluate the appropriateness, acceptability, feasibility, and sustainability of implementing the practice within the MHS enterprise.

## Research Translation and Implementation Approach

Each PBI Network implementation pilot is planned, conducted, and evaluated leveraging a systematic, iterative, and collaborative approach. This research translation and implementation approach is informed by:

1. Reviews of the current literature in the implementation science field to identify relevant frameworks, models, strategies, and evaluation approaches;
2. An environmental scan to identify the current practices and lessons learned used at other organizations that are investing in implementation; and
3. Application of lessons learned from previous pilots conducted by the PBI Network.

In particular, the approach is informed by the Consolidated Framework for Implementation Research (CFIR; Damschroder et al., 2009) and the Integrated Promoting Action on Research in Health Services (i-PARIHS; Harvey & Kitson, 2016) frameworks. After extensive review of the numerous current implementation frameworks and models, these two were selected because they included pragmatic constructs for understanding and addressing the various levels of implementation determinants that are relevant and adaptable to the unique environment of the MHS. **Table 1** provides a summary of each of these frameworks and its relevance to implementation within the DoD.

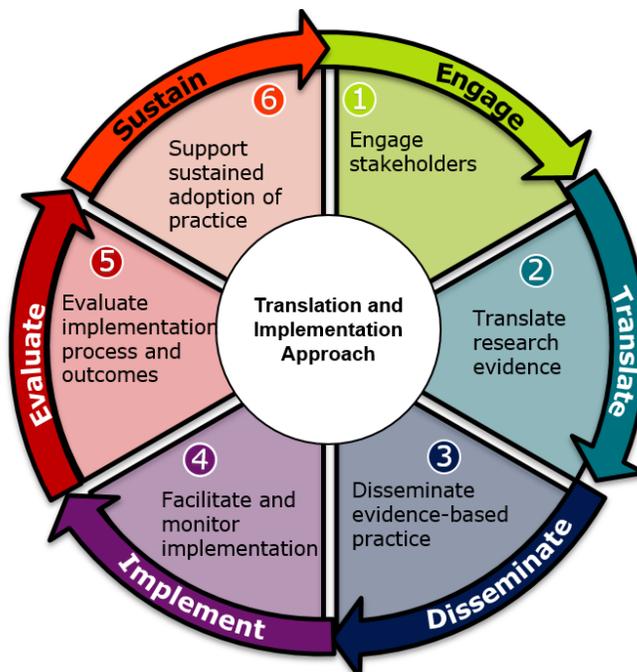
**Table 1. Implementation Frameworks Applied in the DoD**

Framework	Description	Relevancy
CFIR	Nineteen published implementation theories were combined to form a framework that includes 5 major domains (i.e., intervention characteristics, inner setting, outer setting, characteristics of individuals, and process) with 39 underlying constructs and sub-constructs that have been associated with effective implementation	Provides a common, consistently applied set of constructs that can be used to identify potential barriers and facilitators to implementation and guide the selection of implementation strategies to address these factors
i-PARIHS	Emphasizes facilitation (i.e., interactive problem solving and support) as the active ingredient to enable successful implementation	Supports the use of external facilitators (i.e., the PBI Network) and internal facilitators (i.e., site champions) to guide implementation of the practice change

The final PBI Network approach to research translation and implementation was developed by integrating the aforementioned frameworks with PBI Network strategies developed and refined over the last eight years and implementation strategies identified from the Expert Recommendations for Implementing Change (ERIC) project (Powell et al., 2015). The ERIC project was a series of consensus meetings with experts in implementation science and clinical practice to establish a common nomenclature for implementation strategies and definitions. They developed a compilation of 73 implementation strategies with wide applicability to health care delivery and mental health. The PBI Network adopted use of this taxonomy in order to ensure that its implementation processes are consistent with those used in the broader field and reflect the current understanding of effective strategies.

The PBI Network approach consists of six coordinated steps that are continuously informed by close collaboration with stakeholders and new evidence from implementation science researchers and practitioners. **Figure 1** displays the PBI Network’s stepwise approach to research translation and implementation and the sections below outline the key activities that may be conducted during each step.

**Figure 1. The PBI Network Approach to Research Translation and Implementation**

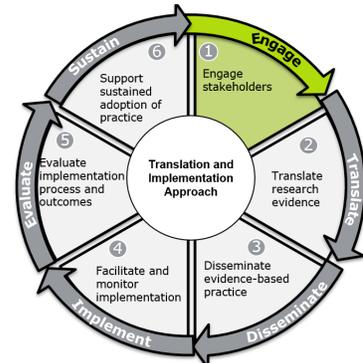


Of note, the PBI Network’s research translation and implementation approach was developed to be flexible and adaptable. As each specific implementation pilot is planned, the approach is applied to develop a tailored pilot-specific implementation plan by selecting and adding the key activities that are determined to be most relevant to the target practice change and anticipated barriers and facilitators. At the end of each pilot, the general approach is also reviewed and adapted as needed to incorporate additional lessons learned and new implementation strategies.

## Step 1: Engage Stakeholders

Effective implementation requires close collaboration with stakeholders to establish ongoing support for the practice change initiative, as well as to gain an in-depth understanding of the implementation context. Strong relationships with stakeholders serve as the foundation for successful dissemination and implementation activities at each step of the pilot. During the first step of the translation and implementation approach, Engage (**Figure 2**), the PBI Network team works with stakeholders in order to better understand the feasibility of implementation, determine potential challenges that will need to be addressed, and identify the appropriate participant groups. Relevant stakeholder groups may include the BHCC, clinic leaders, health care professionals, and research teams. **Table 2** outlines the key activities that may occur during this step.

**Figure 2. Step 1: Engage Stakeholders**



**Table 2. Key Activities to Engage Stakeholders**

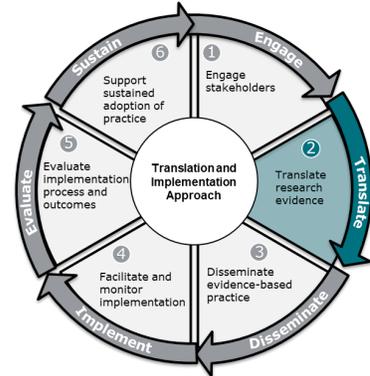
ENGAGE: KEY ACTIVITIES	
➤	Collaborate with research teams to gain a comprehensive understanding of the EBP, including the available implementation resources, outcomes of previous implementation efforts, and recommendations to inform the current implementation effort
➤	Collaborate with psychological health leaders in the Services to identify the target audience for the practice change (e.g., outpatient specialty behavioral health clinicians) and conduct outreach to MHS clinics to identify participants
➤	Conduct outreach with potential pilot sites to socialize the pilot, recruit participants, and establish buy-in on the participation requirements
➤	Gather information on pre-implementation knowledge, attitudes, beliefs, and norms related to the practice change
➤	Conduct site visits to understand the implementation context including clinical processes and variables that may influence adoption of the practice change

The outputs of this step are a list of potential pilot sites and preliminary data that will be used to inform the remaining translation and implementation processes.

## Step 2: Translate Research Evidence

New practices are considered evidence-based after both efficacy and effectiveness have been established. Once they are integrated into the clinical setting, though, there may be a need to adapt them further in order to ensure they fit with the local treatment environment. During this process, clinicians balance fidelity to the practice as studied with local adaptation, and careful attention is given to preserving the core components of the practice that drive favorable health outcomes. Additionally, within DoD, EBPs established in civilian settings may also need to be tailored to the military treatment environment. During the Translate step (**Figure 3**), the PBI Network team develops pilot components and plans that tailor implementation of the practice change to the selected clinical environment. Key activities that may occur during this step are summarized in **Table 3**.

**Figure 3. Step 2: Translate Research Evidence**



**Table 3. Key Activities to Translate Research Evidence**

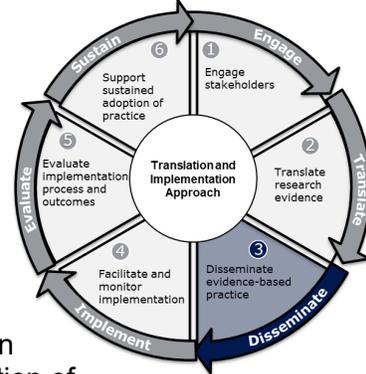
TRANSLATE: KEY ACTIVITIES	
➤	Develop a logic model that illustrates the key components of the pilot, including the problem statement, implementation activities, and the anticipated outcomes
➤	Identify core components of the intervention that should be preserved during the implementation process
➤	Review existing implementation support tools and resources (e.g., manuals, handouts, training curriculums) and update as needed for the current pilot
➤	Develop new implementation support resources to support adoption of the practice change
➤	Develop an overarching evaluation approach to assess the process and outcomes of implementation, including evaluation questions, metrics, and data collection tools (e.g., surveys, semi-structured interview protocols)
➤	Finalize a comprehensive pilot-specific implementation plan that serves as a comprehensive guide to each step of the implementation process

The output of this step is a comprehensive pilot-specific dissemination, implementation, and evaluation plan that can be used to guide ongoing stakeholder engagement, increase the likelihood of the success of the pilot, and reduce the likelihood that implementation barriers will not be identified and addressed accordingly.

### Step 3: Disseminate Evidence-Based Practice

Dissemination involves selecting and executing strategies to spread information about a new practice to the intended audience. It can be passive (e.g., publishing a clinical practice guideline); however active dissemination (e.g., providing decision support tools) using multifaceted strategies may better support adoption of a new practice by healthcare professionals. During the Disseminate step (**Figure 4**), the PBI Network team focuses on building awareness of the new evidence and techniques associated with the practice change by using messaging and strategies that are tailored to the target audience. Initial dissemination is generally provided via in-person knowledge sharing, including live or virtual trainings and distribution of implementation support resources. **Table 4** outlines the key activities that may be conducted to disseminate research evidence.

**Figure 4. Step 3: Disseminate Evidence-Based Practice**



**Table 4. Key Activities to Disseminate Evidence-Based Practice**

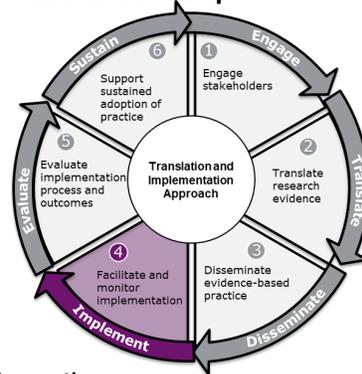
DISSEMINATE: KEY ACTIVITIES	
➤	Package the implementation support resources that were developed during the Translate step in a manner that prioritizes creativity and accessibility
➤	Develop clear messages about the practice change that will effectively inform the audience of the key evidence and techniques of which they should be aware
➤	Provide in-person and/or virtual training focused on practical integration of the practice change into the local context
➤	Disseminate information on the EBP to participants using multiple channels (e.g., site visits, teleconferences, email)
➤	Collect feedback on the usability and appropriateness of implementation support resources and refine as needed

At the end of this step, providers should have a clear and comprehensive understanding of the practice change and this understanding will serve as the foundation for the next step, Implement.

## Step 4: Facilitate and Monitor Implementation

Implementation is the most critical component of the process to move knowledge of a practice into action. During the Implement step (**Figure 5**), implementation strategies are selected and used to support providers as they integrate the practice change into their work. The PBI Network uses the process of implementation mapping to select implementation strategies that are relevant to the implementation environment and address the anticipated barriers and facilitators. Implementation strategies are often selected from the comprehensive list composed during the ERIC project. During this step of the pilot, particular focus is paid to identifying and problem solving implementation challenges that could impede integration, strengthening facilitators that can accelerate adoption of the EBP, and testing adaptations that may be required to maximize the possibility of sustainment. The ultimate goal is to monitor implementation in order to understand the feasibility of sustained adoption. The key activities that may be used during this step are summarized in **Table 5**.

**Figure 5. Step 4: Facilitate and Monitor Implementation**



**Table 5. Key Activities to Facilitate and Monitor Implementation**

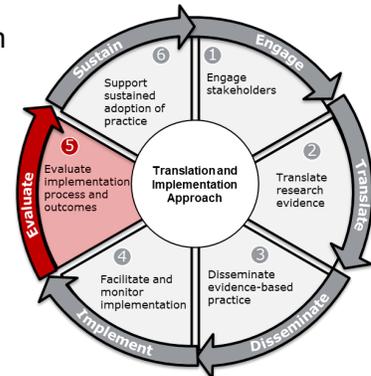
IMPLEMENT: KEY ACTIVITIES	
➤	Provide ongoing training and technical assistance to pilot participants (e.g., via case consultation, communities of practice)
➤	Conduct regular facilitation meetings to review the implementation process, provide feedback, and discuss adaptations
➤	Engage internal facilitators (e.g., site champions) at participating clinics and assist them to provide support to their colleagues throughout the implementation process
➤	Use multiple approaches (e.g., surveys, facilitation calls, chart audits) to monitor and collect feedback on the implementation process
➤	Provide periodic progress reports to stakeholders to assist them in understanding and supporting the implementation process

At the conclusion of this step, the PBI Network has data and feedback that can be evaluated to inform decisions about the value of continued implementation of the EBP within the MHS.

## Step 5: Evaluate the Implementation Process and Outcomes

As the field of implementation science continues to evolve, researchers are working to identify standardized evaluation practices, which would allow for clearer comparisons between studies and facilitate interpretation of study results. Currently the field lacks practical, validated implementation measures that can be used in studies. As a result, researchers rely on established implementation frameworks to build out evaluation questions and strategies. To support development of a common language for implementation evaluation, researchers Proctor et al. (2011) developed a conceptual framework for implementation outcomes that addresses three types of outcomes: 1) implementation outcomes (e.g., acceptability, adoption, costs, feasibility); 2) service outcomes (e.g., efficiency, timeliness); and 3) client outcomes (e.g., satisfaction, symptomatology).

**Figure 6. Step 5: Evaluate the Implementation Process and Outcomes**



During the Evaluate step (**Figure 6**), the PBI Network leverages the CFIR and i-PARIHS frameworks to support and conduct evaluation of its implementation pilots. Quantitative and qualitative data is assessed and then applied to inform decisions made about the potential further dissemination, scale-up, and sustainability of the piloted practice change in the MHS. Outcomes of interest include feasibility, acceptability, and cost. Key activities that may be conducted during this step are summarized in **Table 6**.

**Table 6. Key Activities to Evaluate the Implementation Process and Outcomes**

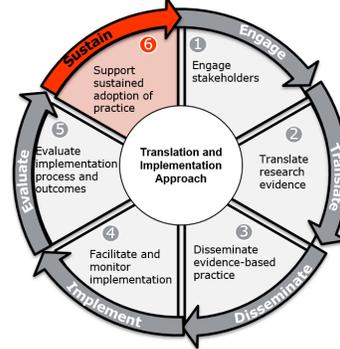
EVALUATE: KEY ACTIVITIES	
➤	Analyze quantitative and qualitative data collected during the Implement step in order to evaluate adoption of the EBP and identify determinants of adoption
➤	Conduct an economic evaluation to assess the relationship between the costs and benefits associated with implementing the EBP
➤	Identify lessons learned from the pilot that can inform future scale-up of the EBP and/or future PBI Network initiatives
➤	Develop recommendations for DoD leaders regarding the feasibility and acceptability of prolonged use of the EBP as well as any adaptations that would be required to maximize sustained adoption
➤	Develop and disseminate a comprehensive report that summarizes the key activities and outcomes from the pilot
➤	Conduct briefings with pilot participants to share the findings and recommendations

At the conclusion of this step, the BHCC makes a formal decision on whether to scale and sustain the EBP in the MHS, based on the findings and recommendations in the final report.

## Step 6: Support Sustained Adoption of Practice

If the BHCC decides to scale an EBP across the MHS, careful planning is required to develop an intentional plan that considers the extent to which the EBP can deliver its benefits over an extended period once external support is removed. Sustainment is especially complicated in the DoD, where multiple factors are constantly occurring that can impede sustainment of the practice change (e.g., provider attrition due to permanent change of station [PCS] or contract changes, evolving DoD medical readiness policies, re-organization of the MHS operating environment). **Table 7** provides an overview of some of the key activities the PBI Network may conduct to support sustainment of a piloted practice change during the Sustain step (**Figure 7**).

**Figure 7. Step 6: Support Sustained Adoption of Practice**



**Table 7. Key Activities to Support Sustained Adoption of Practice**

SUSTAIN: KEY ACTIVITIES	
➤	Refine existing implementation support resources and develop new resources as needed
➤	Package implementation support resources in easy-to-access formats that can be leveraged by clinic leaders who will need to apply them in settings with differing patient populations, staffing models, and clinic operating environments
➤	Provide consultation to clinics during the implementation and sustainment process
➤	Monitor the field to disseminate new relevant research, identify potential adaptations to the practice, and assess the possible need for de-implementation if it arises

The outcome of this step is a scaled EBP that has been shown to be cost-effective, relevant to the MHS, and acceptable to DoD leadership, providers and patients.

## Conclusion

Building on the current implementation science literature as well as the PBI Network’s previous implementation efforts, this research translation and implementation approach provides practical step-by-step guidance to implement evidence-based psychological health practices within DoD. The approach supports the DoD’s efforts to more rapidly translate research into clinical practice in order to create meaningful change and improve health care delivery. It allows for flexibility and stakeholder input at all steps of implementation to address the evolving needs and priorities of the DoD. The approach also provides the foundation to improve providers’ access to the most current research advancements, thus empowering them to continuously deliver the best psychological health treatments to service members.

## References

- Damschroder, L. J., Aron, D. C., Keith, R. E., Kirsh, S. R., Alexander, J. A. & Lowery, J. C. (2009). Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science. *Implementation Science*, 4(50). <https://doi.org/10.1186/1748-5908-4-50>
- Harvey, G., & Kitson, A. (2016). PARIHS revisited: From heuristic to integrated framework for the successful implementation of knowledge into practice. *Implementation Science*, 11(33). <https://doi.org/10.1186/s13012-016-0398-2>
- Institute of Medicine (2014). Treatment for posttraumatic stress disorder in military and veteran populations: Final assessment. Washington, DC: National Academies Press.
- Karlin, B. E., Ruzek, J. I., Chard, K. M., Eftekhari, A., Monson, C. M., Hembree, E. A., . . . Foa, E. B. (2010). Dissemination of evidence-based psychological treatments for posttraumatic stress disorder in the Veterans Health Administration. *Journal of Traumatic Stress*, 23, 663-673. <https://doi.org/10.1002/jts.20588>
- Morris, Z. S, Wooding S., & Grant, J. (2011). The answer is 17 years, what is the question: Understanding time lags in translational research. *Journal of the Royal Society of Medicine*, 104, 510-520. <https://doi.org/10.1258/jrsm.2011.110180>
- Powell, B. J., Waltz, T. J., Chinman, M. J., Damschroder, L. J., Smith, J. L., Matthieu, M.M., . . . Kirchner, J. E. (2015). A refined compilation of implementation strategies: Results from the Expert Recommendations for Implementing Change (ERIC) project. *Implementation Science*, 10(21). <https://doi.org/10.1186/s13012-015-0209-1>
- Proctor, E., Silmere, H., Raghavan, R., Hovman, P., Aarons, G., Bunger, A., . . . Hensley, M. (2011). Outcomes for implementation research: Conceptual distinctions, measurement challenges, and research agenda. *Administration and Policy Mental Health*, 38, 65-76. <https://doi.org/10.1007/s10488-010-0319-7>
- The Center for Deployment Psychology. (2015). *Lessons learned manual: A framework for addressing barriers to evidence-based psychotherapy utilization in the defense department*.

## PBI Network References

### Publications

- Creason, A., Ruscio, A., Tate, K., & McGraw, K. (2019). Accelerating psychological health research findings into clinical practice through the practice-based implementation network model. *Journal of Military Medicine*, 184(1), 409-417. <https://doi.org/10.1093/milmed/usy298>
- McGraw, K., Adler, J., Andersen, S., Bailey, S, Bennett, C., Blasko, K., . . . Kuruganti, K. (2019). Mental health care for service members and their families across the globe. *Journal of Military Medicine*, 184(1), 418-425. <https://doi.org/10.1093/milmed/usy324>

McGraw, K., Gelso, B., Barry, D., Short Bechowski, M., Tate, K., & Houston, J. (2019). The DoD practice-based implementation (PBI) network: Estimating return on investment, *Theoretical Issues in Ergonomics Science*, 20(1), 51-65.  
<https://doi:10.1080/1463922X.2018.1479896>

Pittman, D., Blatt A.D., & McGraw, K. (2017). The DoD practice-based implementation network: Creation and sustainment of an enterprise-wide implementation science initiative for psychological health evidence-based practices. *The Military Psychologist*, 32(1), 8-19.

## Presentations

McGraw, K., Houston, J., McGee-Vincent, P., & Blatt, A. (2017, August). *Innovative psychological health practice change dissemination: DoD/VA implementation science efforts*. Panel Presentation at APA Division 19 Society for Military Psychology, Washington, DC.

McGraw, K., Blatt, A., & Gray, A. (2017, September). *Advancing clinical best practices through implementation science: DoD/VA practice based implementation network and tech into care*. Presented at the Defense Center of Excellence for Psychological Health and Traumatic Brain Injury (DCoE) Summit, Silver Spring, MD.

## Posters

Blatt, A., Ruscio, A., Serey, R., Tate, K., Gray, A., Cotton, G. & McGraw, K. (2017, December). *DoD/VA operational implementation science: Definitive processes to deploy empirically based knowledge solutions to the homefront*. Presented at the 126th Annual meeting of the society for federal health professionals (AMSUS), National Harbor, MD.

Department of Defense & Veterans Health Administration (2017, August) .*The DoD and VA practice-based implementation network: A novel procedure to facilitate rapid translation of psychological health research into clinical practice in the military health and veteran health systems*. Presented at the 2017 Military Health System Research Symposium (MHSRS), Orlando, FL.

Houston, J., Pratt, K., & Gray, A. (2018, December). *Innovative approaches to promote accessibility, adoption, uptake, implementation, sustainability, and scale up of evidence-based practices in behavioral health*. Presented at the 11th Annual Conference on the Science of Dissemination and Implementation, Arlington, VA.

McGraw, K., Pittman, D., Blatt, A., & Blasko, K (2017, August). *Military issues work group of the international initiative for mental health leadership: Engaging international partners to "listen to the world"*. Presented at the 2017 Military Health System Research Symposium (MHSRS), Orlando, FL.

## Unpublished Reports

Department of Defense. (2014). *Practice-based implementation network outcome monitoring project: Internal implementation plan for the DoD PBI network management*. Unpublished report, Silver Spring, MD: Deployment Health Clinical Center, Defense Center of Excellence for Psychological Health and Traumatic Brain Injury (DCoE).

Department of Defense. (2016). *Final report: DoD and VA establishment of a practice-based implementation network in mental health*. Unpublished Report, Silver Spring, MD: Deployment Health Clinical Center, Defense Center of Excellence for Psychological Health and Traumatic Brain Injury (DCoE).

Department of Defense. (2016). *Final report: Screening, brief intervention and referral to treatment (SBIRT) in the military health system (MHS) patient-centered medical home (PCMH)*. Unpublished Report, Silver Spring, MD: Deployment Health Clinical Center, Defense Center of Excellence for Psychological Health and Traumatic Brain Injury (DCoE).

## For Additional Information on the PBI Network

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