DEFENSE HEALTH BOARD
FIVE SKYLINE PLACE, SUITE 810
5111 LEESBURG PIKE
FALLS CHURCH, VA 22041-3206

JUN 0 8 2010

DHB

MEMORANDUM FOR: CHARLES L. RICE, PERFORMING THE DUTIES OF THE ASSISTANT SECRETARY OF DEFENSE FOR HEALTH AFFAIRS

SUBJECT: Findings Pertaining to Evidence-Based Metrics for Department of Defense Mental Health Pre-Clinical Program Effectiveness and Clinical Program Outcomes

1. References

   a. Memorandum, Office of the Assistant Secretary of Defense for Health Affairs, 23 December 2009, Request to the Defense Health Board Pertaining to Evidence-Based Metrics for Department of Defense Mental Health Preclinical Program Effectiveness and Clinical Program Outcomes.

2. Following 23 December 2009, the Assistant Secretary of Defense for Health Affairs requested the Defense Health Board examine the following:

   a. Identify any evidence-based metrics that the Department of Defense might use to measure the effectiveness of preclinical programs supporting resilience, education, and counseling.

   b. Advise the Department on specific evidence-based metrics to measure Department of Defense clinical mental-health program outcomes.

3. The DHB reviewed the report of the Psychological Health External Advisory Subcommittee on 8 June 2010 (Attachment 1) and endorses the report's findings and recommendations.

4. To facilitate and expedite the progress towards meeting the Department's goals, the Board further recommends:

   a. Evidence-based metrics to measure the effectiveness of preclinical programs supporting resilience, education, and counseling are not currently available. The first priority for DoD is to develop a working operational definition of: "resilience in Service members and their families"; "pre-clinical"; and "programs supporting resilience, education, and counseling." Any measurement tool(s) that are employed or developed must be linked to these definitions.

SUBJECT: Findings Pertaining to Evidence-Based Metrics for Department of Defense Mental Health Pre-Clinical Program Effectiveness and Clinical Program Outcomes

b. Evidence-based metrics to measure the effectiveness of clinical mental health programs are generally available and are currently being deployed. However, clinical mental health program metrics are not comprehensive or uniformly applied in a standardized fashion.

c. The Board remains prepared to assist the Department in identifying evidence-based metrics to measure the effectiveness of pre-clinical programs and in developing a plan for applying the recommendations.

FOR THE DEFENSE HEALTH BOARD:

Wayne M. Lednar, M.D. Ph.D.
DHB Co-Vice-President

Gregory A. Poland, M.D.
DHB Co-Vice-President

Charles Fogelman, Ph.D.
Chair, Psychological Health External Advisory Subcommittee

Attached:
As stated

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3. The Psychological Health External Advisory Subcommittee held meetings on 19-20 October 2009, 3-4 December 2009, 24-25 February 2010, and 4-5 May 2010, during which the Subcommittee members discussed current data and received presentations from Department of Defense (DoD) and civilian subject matter experts (SME), including briefs from the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury, the Research and Development (RAND) Corporation, the U.S. Army Comprehensive Soldier Fitness (CSF) program, the Office of the Secretary of Defense for Force Health Protection and Readiness (OSD(FHP&R)), and the Department of Veterans Affairs (VA) Boston Healthcare System. In addition, the Subcommittee held telephonic meetings on 9 November 2009, 1 December 2009, 26 January 2010, 3 February 2010, 8 February 2010, 22 March 2010, and 23 April 2010 to further discuss the findings and implications of the literature, as well as presentations received by the Subcommittee.

4. Following the Subcommittee meeting on 24-25 February 2010, and per the Department's request, the Subcommittee focused their examination on guiding principles for determining and for utilizing metrics.

5. The Subcommittee performed a thorough review of the literature on potential evidence-based metrics that might be used to measure the effectiveness of DoD pre-clinical and clinical mental health programs, as well as on theoretical considerations.

6. Consistent with the Subcommittee's understanding that the intent of DoD pre-clinical mental health programs is to reduce the incidence and severity of "clinical" psychological health conditions, the Subcommittee focused its examination of these initiatives on identifying optimal criteria by which these programs are evaluated. The Subcommittee's examination of "clinical" metrics was focused more on specific measurement processes and instruments.

FINDINGS PERTAINING TO PRE-CLINICAL PROGRAM EFFECTIVENESS

7. Metrics refer to both the principles of evaluating pre-clinical programs and interventions, and to specific measurement tools.

8. The terms "resilience", "pre-clinical", and "programs supporting resilience, education, and counseling," included within the Subcommittee's charge, are ill-defined. Without unified and clear definitions of the terminology, it is difficult to draw conclusions on the impact and effectiveness of preventative programs in the military.

9. Resilience is generally understood to mean the capacity to revert to a prior state, homeostasis, after exposure to an adverse event or events.

10. Resilience programs are designed to build and support processes (for example, use of resources and strategies) that will promote a positive behavioral adaptation after exposure to stress and trauma, as well as to foster their use or availability during periods of strain. The objective is to maintain a healthy and capable fighting Force (resilient outcomes) by preventing maladaptive psychological and behavioral health outcomes in Service members and their families.

11. Service members, as well as family members, with critical behavioral health problems and mental disorders may not seek or receive the necessary care due to concerns about the mental health stigma and service availability, respectively. Because resilience-building prevention interventions typically do not require care seeking and don't rely on specialty (clinical) care visits, they are less subject to stigma and more available.

12. Once behavioral and mental health problems exist, individuals are at higher risk of developing chronic disorders that impair function and performance, both in and outside the military, and throughout the course of their life. Consequently, prevention (resilience promotion) and early intervention programs that target individuals with pre-clinical distress and impairment are essential to providing optimal care in the military.

13. The Subcommittee understands that the term "pre-clinical" has two meanings, one broad (a), and one specific (b):

    a. Any structured training, intervention program, or service (short of clinical care for mental disorders), designed to build resilience in the face of stress and strain in Service members and their families;

    b. A state of functional impairment and distress that cannot be diagnosed psychiatrically as a disorder, but poses a high risk for the subsequent development of mental disorders such as post-traumatic stress disorder (PTSD). For Service members, a pre-clinical state of distress and impairment is associated with temporary non-mission-readiness. For deployed Service members, a pre-clinical state is also a prime opportunity to promote healing and recovery because indigenous resources are in place (for example, peer and leader support) and thus is an important consideration in evaluating programs (see 14 c).

14. In the context of potential exposure to combat and operational trauma, the Institute of Medicine's prevention scheme distributes resilience training programs into three categories: *universal* prevention (at the population level, typically before deployment), *selective* prevention (assisting Service members and families exposed to high magnitude stress, regardless of risk or degree of distress), and *indicated* prevention (interventions designed to assist Service members and family members who are experiencing pre-clinical distress and impairment as a result of exposure to stress and trauma).

    a. *Universal prevention* targets all individuals, regardless of risk, with the intent of improving the overall wellness of the population. However, whether these universal prevention programs help Service members when they are faced with combat and operational trauma, and subsequent distress and impairment, is an unaddressed empirical question that requires attention.

    b. *Selective prevention* targets subsets of the population who have been exposed to serious events (e.g., shared combat loss). However, selective prevention can result in the inefficient use of resources as not all individuals are equally at risk for distress, impairment, or mental disorder.

    c. *Indicated prevention* targets individuals who are experiencing early pre-clinical signs of distress and impairment. Indicated prevention is arguably the most vital prevention tool in the spectrum of prevention efforts within the DoD. Currently, the U.S. Army, Navy, and Marine Corps specify in-theater pre-clinical interventions within their respective doctrines. However, in-theatre practices remain unspecified and have not been subject to systematic evaluation.

15. Although the existing evidence supports the use of indicated prevention strategies, most of the prevention efforts in the military, to date, have focused on universal and selective prevention programs. Indicated prevention requires the assessment and identification of

Service members and family members in a pre-clinical state of distress and impairment. To date, only the Navy and Marine Corps doctrine specifically defines pre-clinical distress (orange zone stress injury).

16. Resilience is both an **outcome** and a **process**.

17. Resilience **outcomes** reflect a return to baseline (a *bouncing back*), biologically, behaviorally, psychologically, socially, and spiritually after impairment has occurred, in response to the exposure of demands and events that tax coping abilities. Events or circumstances which might cause distress and impairment include, but are not limited to, deployment-related stressors, bereavement, conflicts, and traumatic events. Family-related problems before, during, and after deployment are also stressors, and stressors are not limited to the deployment context. A resilient outcome may also include improved functioning.

18. The **processes** that support or create resilience entail the resources, capacities, and strategies that Service members, family members, and military systems possess or acquire in order for an individual to adapt successfully to various deployment cycle demands, stressors, and traumas.

19. Resilient outcomes and processes unfold dynamically; they require evaluation over time.

20. Resilience building and promotion requires an interdisciplinary approach, and this should be considered in program evaluations.

21. Approximately 900 small and large scale programs claim to enhance psychological resilience and prevent clinical disorders among Service members and their families. These programs in the main demonstrate no integration or coordination with one another.

22. Resilience programs are not the sole purview of the military medical community. Training, family support, fitness and further activities have the potential to increase resilience.

23. Many military resilience programs do not adequately specify the rationale and assumptions of their approach, lack sufficient detail on the mechanisms that are intended to build and maintain resilience, and have insufficient detail about prevention goals and expected outcomes; all of these are vital to creating adequate evaluations of prevention programs and interventions.

24. Due to budgetary regulations, most resilience programs are not permitted to allocate funds for the development and implementation of program evaluations. Likewise, military resilience programs are not required to conduct pilot programs or ensure feasibility.

25. Regarding resilience programs, it is recommended that a minimum of 10% of financial resources be allocated to program evaluation.

26. At present, there is no professional consensus about valid, and logistically-feasible, military program evaluation metrics.

27. There are a variety of indirect ways to evaluate the outcomes associated with resilience programs. From a public health vantage point, the overall psychological health of the Force can be examined by culling available data on behavioral and psychiatric outcomes (for example, driving under the influence (DUI), issues of conduct, medical discharge for mental health problems, psychiatric diagnoses, driving infractions, and clinic visits).

28. From a public health vantage point, existing surveillance measures routinely employed in the military can also be leveraged to obtain insight into the degree of distress and impairment throughout the military. Service members, and family members, can also be asked to fill out brief surveys that evaluate the high base-rate mental health problems implicated by exposure to combat and operational stress, namely PTSD, depression, and substance abuse, over time. Mental health utilization rates from DoD databases, and incidence of PTSD, depression and alcohol dependence rates, as reported by the Armed Force Health Surveillance group, are additional objective measures.

29. Family members, as well as military leaders, can provide important information about the state of Service members. This kind of collateral information is important because some Service members are functionally impaired, but do not have a clinical disorder.

FINDINGS PERTAINING TO CLINICAL MENTAL HEALTH PROGRAM OUTCOMES

30. Clinical metrics refers to methods and instruments which are used to assess the current overall state of psychological health among Service men and women, as well as to identify in individuals overt manifestations of psychological distress or psychiatric disorders, in terms of symptoms, functional impairment, and impact on others (e.g., family/friends, military unit).

31. Clinical metrics can be utilized in the following settings:

    a. Population surveillance: screening of all military personnel on a routine, periodic, or deployment-related basis to indicate the current state of psychological health of the Force, as well as to provide benchmarks to determine the performance and effectiveness of prevention and treatment services.

    b. Clinical care: patients referred for evaluation or treatment to health care professionals at patient clinics, emergency departments, or hospital settings.

32. The purpose for using clinical metrics is to improve the accurate detection and monitoring of psychological distress and psychiatric disorders in individual Service members, to establish their baseline mental health (in order to determine future deterioration or improvement), to minimize the burden of mental disorders on Service members' families

and units, and to optimize the mental health and resilience of military units and the Armed Forces overall.

33. Clinical metrics are essential to the establishment of benchmarks regarding the psychological health of Service men and women, to the accurate detection of psychological distress and psychiatric disorders that may be the result of exposure to combat, and to determine the success of prevention and treatment interventions designed to minimize the impact of exposure to trauma on individual Service members, their families, and the mental health of military units and the Armed Forces overall.

34. Within the overall context of clinical metrics in our population, brief measures are preferred to the longer measures that may be used in research settings or for formal structured psychological/psychiatric diagnostic assessments.

35. Within the overall context of clinical metrics in our population, strong operating characteristics (sensitivity and specificity) of a measure are essential while brevity, ease of administration and scoring, availability (for example, public domain instead of proprietary), and applicability to military populations are secondary, but nonetheless important, considerations.

36. Measures that can serve as indicators regarding the overall Force are preferred over measures that are specific to particular treatment interventions. For example, the periodic reports of mental health data from clinical information systems as done by Office of Strategy Management, the Office of the Assistant Secretary of Defense of Health Affairs (OASD(HA)), the Military Health Service (MHS) Strategic Imperatives Dashboard, and the DoD Well Being of the Force Indicators, are essential in optimizing the use of personnel, resources, and in improving patient outcomes.

37. Harm to self (suicide) or others (violence) are infrequent but serious events that are of vital concern to the military, as well as the general public.

38. Assessment of functional status is a valuable adjunct to symptom assessment for surveillance and, especially, for clinical purposes.

39. Some issues related to clinical metrics that the Subcommittee considers beyond the scope of this portion of the report, but are, nonetheless, deemed important include:

    a. *Serious mental illness* (for example, schizophrenia, bipolar disorder). These are much less prevalent disorders, require highly specialized and intensive psychiatric care, and often prevent accession into or retention in the military.

    b. Behavioral conditions affecting *military dependents*, including child/adolescent disorders (for example, conduct disorders; attention deficit hyperactivity disorder (ADHD); autism; mood) and other family issues (for example, marital and/or family stress; domestic violence and abuse; separation and/or divorce). The

reasons these issues are not discussed include the fact that the principal focus of this report is the Active Duty Service member, it may not be as feasible to screen family members, there may be less military-specific stigma with respect to psychological disorders in family members, and treatment frequently may occur outside the military treatment facility (for example, within the community).

c. Poorly-understood *symptom-based syndromes* with substantial psychological co-morbidity, such as chronic multi-symptom illness, Gulf War Illness, traumatic brain injury (TBI), and other post-war syndromes.

d. *Comprehensive psychological assessments* (for example, lengthy measures like the Minnesota Multi-phasic Personality Inventory (MMPI) or the Symptom Checklist-90 (SCL-90)) or structured diagnostic interviews (for example, Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders (DSM) (SCID), Clinician Administered PTSD Scale (CAPS), Mini-international Neuropsychiatric Interview (MINI)), which may be used by mental health professionals in research settings or selected clinical settings.

e. Clinical measures based upon *data not gathered directly from the Service member* but from analysis of electronic health care records, military records, or input from others such as commanders and family members. Examples include: impact on military careers (for example, return to work, retention, and re-integration into society for reservists, guard members, or veterans), processes of care, and functioning of families and military units. These clinical measures may serve to be more useful in program evaluation than in the clinical context.

f. Marked increases in the use of *opiates* by the military for treating pain have been recently reported.

g. Metrics regarding the processes and systems of delivery of mental health care.

FINDINGS PERTAINING TO SURVEILLANCE AND PSYCHOLOGICAL HEALTH INDICATORS

40. The present frequency of mental health assessment – annually in all Service members, and more often in those being deployed – is more than adequate. Indeed, the current frequency of screening pre-deployment, and at several time points post-deployment, may be more frequent than is necessary, especially in units being frequently deployed. Ensuring that all Service members undergo screening once a year, and possibly one time post-deployment, may be sufficient.

41. The domains captured in the annual and deployment-related mental health assessments (TAB B) sufficiently cover the behavioral conditions most relevant to the military.

42. Measures currently used to screen for depression (Patient Health Questionnaire-2 (PHQ-2), post-traumatic stress disorder (Primary Care (PC)-PTSD) and alcohol abuse (Alcohol Use Disorders Identification Test-Consumption (AUDIT-C)) are strongly evidence-based (TAB A, Section 2).

43. Evidence for specific metrics to assess several other key domains, including psychological functioning, thoughts of self-harm or violence towards others, and previous sexual assault, is insubstantial. Nonetheless, these are significant domains to assess in military populations, and additional questions would undoubtedly enhance the current screening.

44. Several somatic symptoms – pain, sleep disorders, and cognitive complaints – are prevalent in military populations and frequently co-exist with psychological disorders. Indeed, many individuals with psychological stress or psychiatric disorders present, first, with somatic symptoms. The current post-deployment questionnaires (Post-Deployment Health Assessment (PDHA) and Post-Deployment Re-Assessment (PDHRA) (TAB A Section 2, and TAB B)) include a 23-symptom checklist assessing five pain symptoms, three cognitive symptoms, and one sleep symptom. The follow-up questionnaires proposed for individuals who screen positive for depression or PTSD (PHQ-8, and PTSD Checklist (PCL) questionnaires) also include items about sleep. Thus, somatic symptoms are adequately covered.

45. Risk taking behavior (for example, reckless driving, and unsafe sexual practices) is an issue for some Service members returning from deployment and may be a new criterion for PTSD in the Diagnostic and Statistical Manual of Mental Disorders (DSM-V). Thus, post-deployment questionnaires cover the appropriate screening of risk taking behavior.

46. Measures of non-PTSD anxiety disorders were considered. An abbreviated measure for anxiety disorders in general is the Generalized Anxiety Disorder-2 (GAD-2), which has good sensitivity and specificity for generalized anxiety disorder, panic disorder, social anxiety disorder, and PTSD. However, PTSD is by far the most important anxiety disorder in military populations, and the added value of screening for additional anxiety disorders is unclear at this point.

47. Measures of illicit drug use or prescription drug misuse were considered. There are several major barriers to screening for illicit or prescription drug abuse, including a lack of screening measures with strong operating characteristics and the adverse career implications that are likely to foster substantial underreporting.

48. A balance between efficiency and accuracy in clinical assessment is best achieved by a stepped (tiered) assessment approach, as follows:

    a. **Step 1.** Self-administered screening questions or scales; if positive, then,

b. **Step 2.** More detailed follow-up questions or scales, but still self-administered whenever possible, either by paper-and-pencil or computer; if threshold criteria are met, then,

c. **Step 3.** Person-to-person interviews. Examples include a full PHQ-9 for those who screen positive for depression on the PHQ-2 and the PCL for those who screen positive for PTSD on the PC-PTSD. Even more comprehensive computer-administered behavioral assessments, such as the Air Force's Automated Behavioral Health Clinic, are useful prototypes but probably too lengthy and not yet sufficiently evaluated for widespread implementation at this time.

49. While *deployment-related screening* is conducted across all Services, there currently is no *uniform assessment battery* of annual or periodic screening, independent of deployment, among the military branches for Service members not deployed.

50. Mental health assessment has occurred immediately post-deployment, and 90-180 days after returning from deployment, with an interview triggered in selected individuals who screen positive on a self-administered questionnaire. However, Public Law 111, Title VII, Section 708, Health Care Provisions, mandates: a) a *person-to person* mental health assessment of *every* member of the Armed Forces deployed in connection with a contingency operation (rather than, as done previously, an assessment only for individuals who screen positive on the self-administered questionnaire); b) the addition of an assessment $\leq$ 60 days *pre-deployment*; c) several *additional follow-up* assessments (7-12 months, and 16-24 months post-deployment). The purpose is to identify PTSD, suicidal tendencies, and other behavioral health conditions in order to refer Service members for additional care and treatment.

51. Four potential benefits of the new requirement for universal pre- and post-deployment person-to-person mental health assessments include:

a. Reducing the mental health stigma by having all Service members undergo an interview, rather than only the subset of individuals identified by positive screening;

b. Reinforcing mental-physical parity, for example, the concept that psychological and physical fitness are equally important;

c. Increasing recognition and treatment of undetected behavioral health conditions;

d. Possibly reducing the perceived under-reporting that may occur with screening programs that are predominantly self-administered, though evidence of the impact of this approach on under-reporting is not yet available.

52. This universal requirement does have several consequences with respect to training, mental health resources, and deployment, as follows:

a. First, it will require additional personnel and training resources to adequately carry out these assessments.

b. Second, there will need to be sufficient mental health clinical resources to handle referrals in a timely fashion, especially in the 60-day pre-deployment window. This is necessary both to adequately evaluate and treat the Service members identified with behavioral health conditions as well as to preserve the troop strength and readiness of the military units being deployed.

c. Third, the new requirement for pre-deployment mental health assessment will require decisions on the criteria for non-deployability in terms of behavioral health conditions and treatments.

FINDINGS PERTAINING TO CLINICAL CARE

53. Measurement-based care to assess and monitor psychiatric symptom severity and functional impairment is increasingly recommended in the treatment of mental disorders, but is not routinely performed or documented in military clinical practice across all Services. Disease-specific outcomes are obtained in military medical practice, and are essential in the care of somatic disorders (for example, hemoglobin A1C in diabetes, blood pressure in hypertension, and serum cholesterol in hyperlipidemia).

54. A number of brief measures to assess functioning are available, varying in length, ease of scoring, availability (for example, public domain vs. proprietary), and relevance of items to Active Duty military personnel (TAB C). The Inventory of Functional Impairment (IFI) has been specifically designed for veteran populations to assess functioning in seven domains (work, family, parenting, education, friendships/socializing, romantic relationships, and day-to-day activities). A brief measure could be the seven items from the IFI that assess global impairment in each of these domains. However, it would require further testing for validity and utility in Active Duty populations. The item used to assess global functioning in three domains on annual and deployment-related screening questionnaires would be suitable to use in clinical treatment programs as well (TAB A, Section 1). Brief measures are now readily available for use in-theater, particularly in clinical settings where treatment records are stored.

CONCLUSIONS

55. The Board appreciates the opportunity to provide input and offer recommendations to the Department. The Board approves and endorses the following recommendations pertaining to evidence-based metrics for DoD mental health pre-clinical program effectiveness and clinical program outcomes.

RECOMMENDATIONS PERTAINING TO PRE-CLINICAL PROGRAM EFFECTIVENESS

56. Based on a comprehensive examination of the evidence-based metrics for DoD mental health pre-clinical program effectiveness and clinical program outcomes, the Board submits the following recommendations to the ASD(HA) regarding pre-clinical programs:

57. In order to focus evaluation and program design efforts, the DOD must develop working operational definitions of: resilience in Service members and their families; pre-clinical; and programs supporting resilience, education, and counseling. Any measurement tool(s) which are employed or developed must be linked to these definitions.

58. Because there are so many programs, contexts, and Service branch-specific initiatives, planning for evaluations of programs and of specific metrics requires a full accounting and categorization of all existing programs. Any effort underway to do this should be expedited.

59. The major measures of the impact of resilience programs should be reduction in the incidence of pre-clinical distress and impairment and of mental health disorders among the military and family members.

60. Any resilience program must demonstrate incremental validity. That is, measurement must be made of the impact of programs above and beyond the indigenous resources provided by military training, group and peer supports, family supports, and generic sources of wellness (for example, physical training). This requires equivalent measurement before and after the program's occurrence as well as, ideally, continuing across time.

61. Funding for resilience programs should be awarded contingent on the inclusion of an evaluation plan and a minimum of 10% of program resources should be allocated for evaluation.

62. Rigorous clinical trials are typically infeasible in the military and many programs that need to be evaluated have already been rolled out; therefore, a *program evaluation* framework to determine the viability and impact of resilience training efforts is the most appropriate and applicable.

63. In addition to program evaluations, quasi-experimental or experimental designs should be used, including use of randomization, where possible.

64. Most of the prevention efforts in the military to date have focused on universal and selective strategies. Indicated prevention programs should be fostered and evaluated as well.

65. In order to develop a methodology for program evaluation and a plan to conduct an assessment of effectiveness, programs should articulate: a conceptual framework; a definition of resilience; the guiding assumptions of and the rationale for the approach taken; what is being targeted and why; the program content and the delivery process (for example, credibility and usefulness to Service members and leaders); the knowledge or behavioral repertoires intended to be retained and used by Service members and family units; and program deliberation and uniformity.

66. In terms of effectiveness, programs should demonstrate the following, that they:

a. Provide incremental validity, above indigenous training, leadership, other ongoing DoD programs, and peer (and family) support.

b. Prepare Service members and family members to manage the immediate aftermath of various stressors.

c. Improve wellness behaviors, such as self-care, driving habits, and so forth.

d. Motivate individuals to seek care if psychiatric illnesses develop.

e. Help the Service member to provide support to peers at times of trauma and loss.

RECOMMENDATIONS PERTAINING TO SURVEILLANCE AND PSYCHOLOGICAL HEALTH INDICATORS

67. The Board recommends that the following measures be included or modified:

a. The compound self-report item currently used for assessing global psychological functioning should be modified to differentiate impairment in the three discrete domains: work, home activities, and social relations (TAB A, Section 1).

b. A structured assessment including several additional questions for individuals who endorse the screening questions on self-harm (suicidality) or harm to others should be added. The subcommittee endorses the structured assessment for self-harm being considered by the ASD(HA). Also, draft questions for harm to others are included in (TAB A, Section 1). A single question about sexual assault should be added to the PDHA (TAB A, Section 1).

c. Additional screening questions regarding anxiety are not recommended.

68. The inclusion of self-report questions about illicit or prescription drug misuse, including current use, *is not recommended* at this point. However, drug misuse

should be considered as an area of future deliberation, as it may directly impact the preparedness, effectiveness and deployability of the Force.

69. **Assure that there are sufficient numbers of trained personnel to conduct the recently mandated pre- and post-deployment person-to-person mental health assessments, as well as adequate mental health clinical resources to handle referrals in a timely fashion, particularly in times of military surges.**

70. **A uniform, minimum set of measures and of screening frequency should be adopted across the different branches of the military.**

71. **Develop a standard set of key psychological health indicators, in addition to, or adapted from, the ones derived from the ASD(HA) measures, which can be reported annually noting the state of behavioral health in the Armed Forces.**

RECOMMENDATIONS REGARDING CLINICAL CARE

72. **Incorporate routine measurement and documentation of depression (PHQ-9) and PTSD (PCL) into clinical practice to assess symptom severity and to monitor treatment outcomes.**

73. **Incorporate routine measurement of global psychological functioning into clinical practice using both patient self-report and clinician-rated impairment. The question proposed for surveillance screening is also suitable for self-report in clinical settings, whereas the clinician rating should confirm actual impairment in the same three functional domains (work, home activities, and social relations) (TAB A, Section 1).**

74. **Measurement-based care should be the principal method for assessing treatment outcomes regarding mental disorders.**

75. **While evidence-based metrics for *processes* of mental health care were not the focus of this report, such processes should nonetheless be monitored, and measures developed, as secondary indicators of the quality of mental health care and the adequacy of clinical capacity/resources. Important processes that should also be evaluated include the following:**

    a. **Access to care (for example, days between referral and actual mental health appointment);**

    b. **Clinician competence (training) in providing evidence-based treatments and in adherence to guideline-level care (fidelity) in their administration (for example, psychotherapy, medication management);**

    c. **Patient adherence to treatment;**

d. Patient satisfaction;

e. Effectiveness of programs that facilitate transition of care from Active Duty to VA or civilian mental health treatment providers and facilities (for example, for those from Reserve or National Guard units).

76. At a clinical and systems level, measures should be clearly tied to interventions to determine the effectiveness and performance of current programs.

77. The above recommendations were unanimously approved.

FOR THE DEFENSE HEALTH BOARD:

Wayne M. Lednar, M.D. Ph.D.
DHB Co-Vice-President

Gregory A. Poland, M.D.
DHB Co-Vice-President

Charles Fogelman, Ph.D.
Chair, Psychological Health External Advisory Subcommittee

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TAB A

Section 1 – Recommended Modifications to Surveillance Questionnaires

Functional Impairment – Global Item

During the past 4 weeks, how difficult have emotional problems *(such as feeling depressed or anxious)* made it for you to ...	Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
a. Do your work?				
b. Take care of things at home?				
c. Get along with other people?				

Violence to Others *(draft)*

1. Over the PAST MONTH, have you had thoughts or concerns that you might hurt or lose control with someone?
   ___ No
   ___ Yes
   ___ Unsure } Ask questions 2-4

2. What situation provokes you to potentially hurt someone or lose control?

   _____

3. If this situation is not resolved, how likely is it you will hurt someone?
   ___ Not at all likely
   ___ Somewhat likely
   ___ Very likely

4. Excluding engagement in a combat setting, have you ever been involved in a violent act that resulted in significant injury or someone needing medical care?
   If Yes (please describe incident) _____

Sexual Assault *(example, single-item questions)*

During your deployment, were you forced or pressured into having sex?

During your deployment, did someone use force or the threat of force to have sexual contact with you against your will?"

Section 2 -- Selected Items from PDHRA (Form 2900)

Depression — PHQ-2 (well-validated)

14. Over the PAST MONTH, have you been bothered by the following problems?	Not at all	Few or several days	More than half the days	Nearly every day
a. Little interest or pleasure in doing things	○	○	○	○
b. Feeling down, depressed, or hopeless	○	○	○	○

PTSD — PTSD-PC (well-validated)

12. Have you ever had any experience that was so frightening, horrible, or upsetting that, IN THE PAST MONTH, you ....

a. Have had nightmares about it or thought about it when you did not want to? ○ Yes ○ No

b. Tried hard not to think about it or went out of your way to avoid situations that remind you of it? ○ Yes ○ No

c. Were constantly on guard, watchful, or easily startled? ○ Yes ○ No

d. Felt numb or detached from others, activities, or your surroundings? ○ Yes ○ No

Alcohol — (well-validated) *Items 13 c,d,e are the AUDIT-C*

13a. In the PAST MONTH, Did you use alcohol more than you meant to? ○ Yes ○ No

b. In the PAST MONTH, have you felt that you wanted to or needed to cut down on your drinking? ○ Yes ○ No

c. How often do you have a drink containing alcohol?
○ Never ○ Monthly or less ○ 2 to 4 times a month ○ 2 to 3 times a week ○ 4 or more times a week

d. How many drinks containing alcohol do you have on a typical day when you are drinking?
○ 1 or 2 ○ 3 or 4 ○ 5 or 6 ○ 7 to 9 ○ 10 or more

e. How often do you have six or more drinks on one occasion?
○ Never ○ Less than monthly ○ Monthly ○ Weekly ○ Daily

Suicidality or Violence – *asked by provider interview*

a. Over the PAST MONTH, have you been bothered by thoughts that you would be better off dead or of hurting yourself in some way? ○ Yes ○ No

IF YES, about how often have you been bothered by these thoughts? ○ Very few days ○ More than half of the time ○ Nearly every day

b. Since return from your deployment, have you had thoughts or concerns that you might hurt or lose control with someone? ○ Yes ○ No ○ Unsure

Psychological Help

16. Are you currently interested in receiving information or assistance for a stress, emotional or alcohol concern? ○ Yes ○ No

17. Are you currently interested in receiving assistance for a family or relationship concern? ○ Yes ○ No

18. Would you like to schedule a visit with a chaplain or a community support counselor? ○ Yes ○ No

PTSD Exposures — *1 question (#7) asked on PDHRA. All 4 questions asked on PDHA*

7. **During your deployment, were you wounded, injured, assaulted or otherwise physically hurt?** ○ Yes ○ No
   If NO, skip to Question 8.
   7a. If YES, are you still having problems related to this wound, assault, or injury? ○ Yes ○ No ○ Unsure

10. **Did you encounter dead bodies or see people killed or wounded during this deployment?** *(Mark all that apply)*
    ○ No ○ Yes (○ Enemy ○ Coalition ○ Civilian)

11. **Were you engaged in direct combat where you discharged a weapon?**
    ○ No ○ Yes (○ land ○ sea ○ air)

12. **During this deployment, did you ever feel that you were in great danger of being killed?**
    ○ No ○ Yes

Emotional Functioning (validated from SF-12)

4. **During the past 4 weeks, how difficult have emotional problems** *(such as feeling depressed or anxious)* **made it for you to do your work, take care of things at home, or get along with other people?**
   ○ Not difficult at all ○ Very difficult
   ○ Somewhat difficult ○ Extremely difficult

Family/Social

11. **Since return from your deployment, have you had serious conflicts with your spouse, family members, close friends, or at work that continue to cause you worry or concern?** ***[Yes, No, Unsure]***

Symptoms

8a. If YES, please mark the item(s) that best describe your deployment-related condition or concern:

○ Fever	○ Dimming of vision, like the lights were going out
○ Cough lasting more than 3 weeks	○ Chest pain or pressure
○ Trouble breathing	○ Dizzy, light headed, passed out
○ Bad headaches	○ Diarrhea, vomiting, or frequent indigestion/heartburn
○ Generally feeling weak	○ Problems sleeping or still feeling tired after sleeping
○ Muscle aches	○ Trouble concentrating, easily distracted
○ Swollen, stiff or painful joints	○ Forgetful or trouble remembering things
○ Back pain	○ Hard to make up your mind or make decisions
○ Numbness or tingling in hands or feet	○ Increased irritability
○ Trouble hearing	○ Taking more risks such as driving faster
○ Ringing in the ears	○ Skin diseases or rashes
○ Watery, red eyes	○ Other (please list):

Pain (n = 5): Headaches, Muscle aches, Painful joints, Back pain, Chest pain

Cognitive (n = 3): Trouble concentrating, Forgetful, Hard to make decisions

Sleep (n = 1) Problems sleeping or still feeling tired after sleeping

Anger/Risk (n =2) Increased irritability, Taking more risks such as driving faster

TBI

9a. During this deployment, did you experience any of the following events? *(Mark all that apply)*

	Yes	No
(1) Blast or explosion *(IED, RPG, land mine, grenade, etc.)*	○	○
(2) Vehicular accident/crash *(any vehicle, including aircraft)*	○	○
(3) Fragment wound or bullet wound above your shoulders	○	○
(4) Fall	○	○
(5) Other event *(for example, a sports injury to your head)*. Describe: _____	○	○

9b. Did any of the following happen to you, or were you told happened to you, IMMEDIATELY after any of the event(s) you just noted in question 9a.? *(Mark all that apply)*

	Yes	No
(1) Lost consciousness or got "knocked out"	○	○
(2) Felt dazed, confused, or "saw stars"	○	○
(3) Didn't remember the event	○	○
(4) Had a concussion	○	○
(5) Had a head injury	○	○

c. Did any of the following problems begin or get worse after the event(s) you noted in question 9a.? *(Mark all that apply)*

	Yes	No
(1) Memory problems or lapses	○	○
(2) Balance problems or dizziness	○	○
(3) Ringing in the ears	○	○
(4) Sensitivity to bright light	○	○
(5) Irritability	○	○
(6) Headaches	○	○
(7) Sleep problems	○	○

d. In the past week, have you had any of the symptoms you indicated in 9c.? *(Mark all that apply)*

	Yes	No
(1) Memory problems or lapses	○	○
(2) Balance problems or dizziness	○	○
(3) Ringing in the ears	○	○
(4) Sensitivity to bright light	○	○
(5) Irritability	○	○
(6) Headaches	○	○
(7) Sleep problems	○	○

Toxic Exposures *From PDHA. Some modifications in PDHRA*

16. Are you worried about your health because you were exposed to: *(Mark all that apply)*	No	Yes
Animal bites	○	○
Animal bodies *(dead)*	○	○
Chlorine gas	○	○
Depleted uranium *(If yes, explain)* _____	○	○
Excessive vibration	○	○
Fog oils (smoke screen	○	○
Garbage	○	○
Human blood, body fluids, body parts, or dead bodies	○	○
Industrial pollution	○	○
Insect bites	○	○
Ionizing radiation	○	○
JP8 or other fuels	○	○
Lasers	○	○
Loud noises	○	○
Paints	○	○
Pesticides	○	○
Radar/Microwaves	○	○
Sand/dust	○	○
Smoke from burning trash or feces	○	○
Smoke from oil fire	○	○
Solvents	○	○
Tent heater smoke	○	○
Vehicle or truck exhaust fumes	○	○
Other exposures to toxic chemicals or materials, such as ammonia, nitric acid, etc.: *(If yes, explain)* _____	○	○

SAMPLE

17. Were you exposed to any chemicals or other hazard *(industrial, environmental, etc.)* **that required you to seek immediate medical care?**

○ No ○ Yes

18. Did you enter or closely inspect any destroyed military vehicles?

○ No ○ Yes

19. Do you think you were exposed to any chemical, biological, or radiological warfare agents during this deployment?

○ No ○ Don't know ○ Yes, explain with date and location _____

TAB B

SUBJECT: Findings Pertaining to Evidence-Based Metrics for Department of Defense Mental Health Pre-Clinical Program Effectiveness and Clinical Program Outcomes

Table 1. Psychological Health Screening Questions on Department of Defense Periodic Health Assessments

Form	Name†	Dep	Suic/V iol	PTSD Exp	PTSD Symp	Alco-hol	Social/ Work	Emot Func	Psych Rx	Sleep	Pain	Cogni-tive	Phys Sym	Anger/ Risk	Other Anxiety
2766	PHA [1]	2-8		1-2		3	1	4		1-4	1			1-2	
2795	Pre-HA [2]	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Rev.	*Pre-HA-r*[2]	*2-8*	*1-5*	*0*	*4-17*	*3*		*1*	*2*	*0*	*0*	*0*	*0*	*0*	*0*
2796	PDHA [3]	2	1+1	4	4	5	0	1	3	1	5	3	13	1	
2900	PDHRA [3]	2	1+1	1	4	5	1	1	3	1	5	3	13	2	
Other	ABHC [4]	9	13+2	19	17	14	27		4	3	2	4		8	13

† Abbreviations

• PHA	Periodic Health Assessment	Annually
• Pre-HA	Pre-Deployment Assessment	≤ 60 days prior to deploying
Pre-HA-r	Proposed revision of current Pre-HA	" " " " "
• PDHA	Post-Deployment Health Assessment	≤ 30 days of expected date of return from theater
• PDHRA	Post-Deployment Health Re-Assessment	Between 90-180 days after returning to home station

[1] Periodic Health Assessment – uses Health Assessment Review Tool – Readiness (HART-R) → Emotional. function (4), sleep (1), pain (1), & social (1) items are from SF-12 which typically does not score individual items but only 2 component scores: physical and emotional. Depression items including PHQ-2 screener and, if positive, remaining 6 items of PHQ-8. Instead of HART-R , Navy/Marines use 21-item Health Risk Assessment (HRA), with 3 items on alcohol, 2 on stress/depression/anger, 1 on sleep.

[2] Pre-Deployment Health Assessment (Form 2795) just asks a single question related to psychological health ("During the past year, have you sought counseling or care for your mental health?) Proposed revision will be quite similar to PDHA/PDHRA.

[3] Except for some minor issues, PDHA and PDHRA are quite similar.

- Psychological items from PDHRA are shown on pp. 3-5.
- PDHA and PDHRA also have a large number of items for TBI (n =17) and toxic exposures (n=25). See p. 6

[4]Automated Behavioral Health Clinic is 400+ question computer-administered measure which, besides items in Table 1, includes: *Psychosis* (10 items); *Legal problems* (6); *Family history mental disorder* (3); *PTSD Growth* (21); Other Anxiety [*Panic* (5); *GAD* (8)]; Social/Work [*Unit/military relationships + difficulties* (12 + 4); *Marital/partner relationships* (6); *Social support + mood* (5 + 4)]

TAB C

Table 2. Functional Impairment measures – selected examples

Characteristic	IFI *	SF-36	SF-12	WHO-DAS	Euro QOL 5D	Shee-han	PROMIS † Short Form	PROMIS † Profile
Proprietary		Yes	Yes	No	No	No	No	No
Total items	87	36	12	12-36	5	3	61	28-56
Scoring easy	Yes	No	No	No	Yes	Yes	Yes	Yes
Domains (# items)								
• Marital/partner relationships	12							
• Family relationships	8					1		
• Work functioning	22					1		
• Social/friends functioning	9	2				1		
• Parenting	11							
• School/education functioning	16							
• General activity functioning	9							
• General (overall) health		6						
• Role functioning – physical		4	X					
• Role functioning – emotional		3	X					
• Cognition				X				
• Mobility				X	1			
• Self-care				X	1			
• Interpersonal interactions				X				
• Work and leisure activities				X	1			
• Social participation				X				
• Anger							8	
• Anxiety		5			1		7	4-8
• Depression							8	4-8
• Fatigue		4					7	4-8
• Pain		2			1		6	4-8
• Physical function		10					10	4-8
• Sleep							8	4-8
• Role/social satisfaction							7	4-8

* Inventory of Functional Impairment

† PROMIS measures tend to focus more on symptom domains, but do capture some functioning domains.