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Enhancing Assessments of Mental Health Programs and Program Planning

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About This Publication

This work was conducted by the Institute for Defense Analyses (IDA) under contract DASW01-04-C-0003, BA-6-3388, "Enhancing Assessments of Mental Health Programs and Program Planning," for the Director, Cost Assessment and Program Evaluation. The views, opinions, and findings should not be construed as representing the official position of either the Department of Defense or the sponsoring organization.

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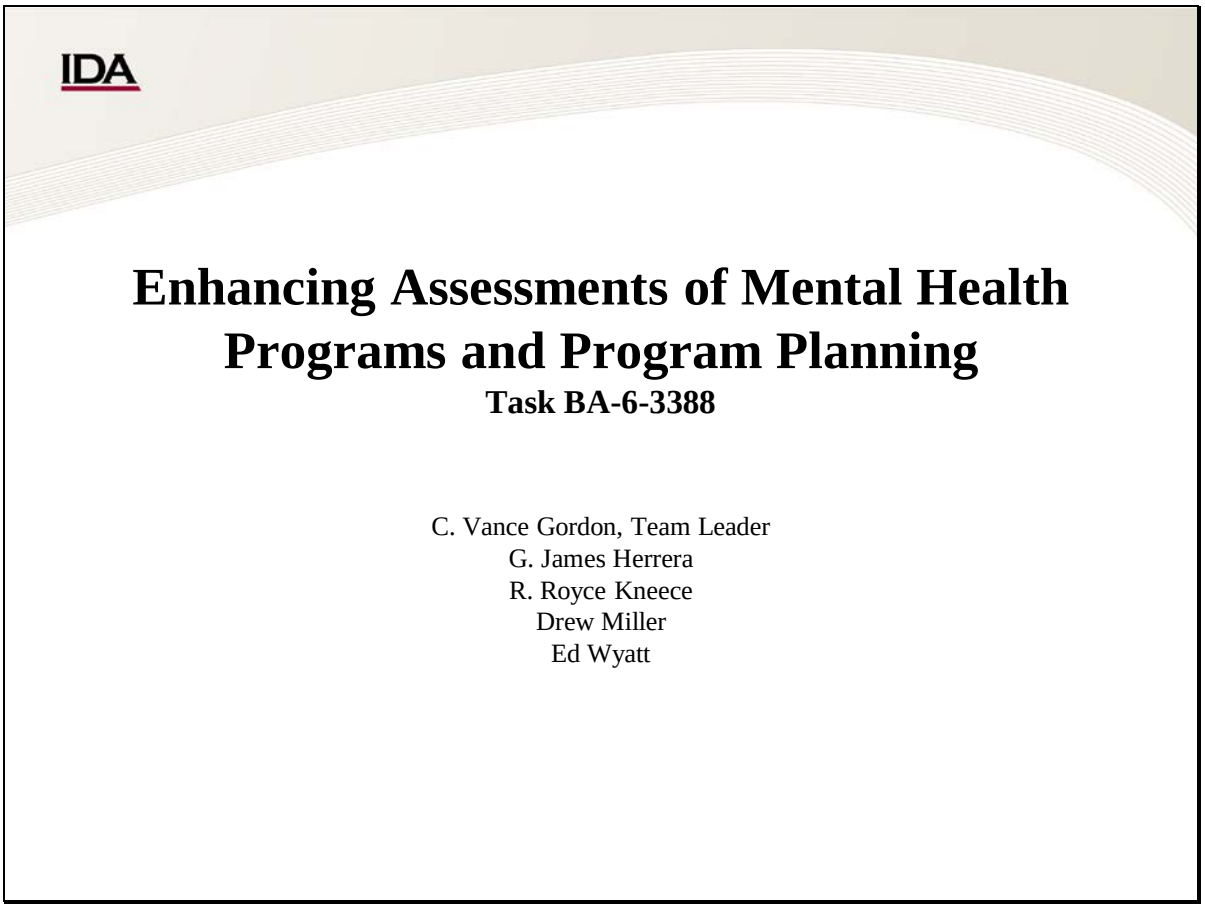
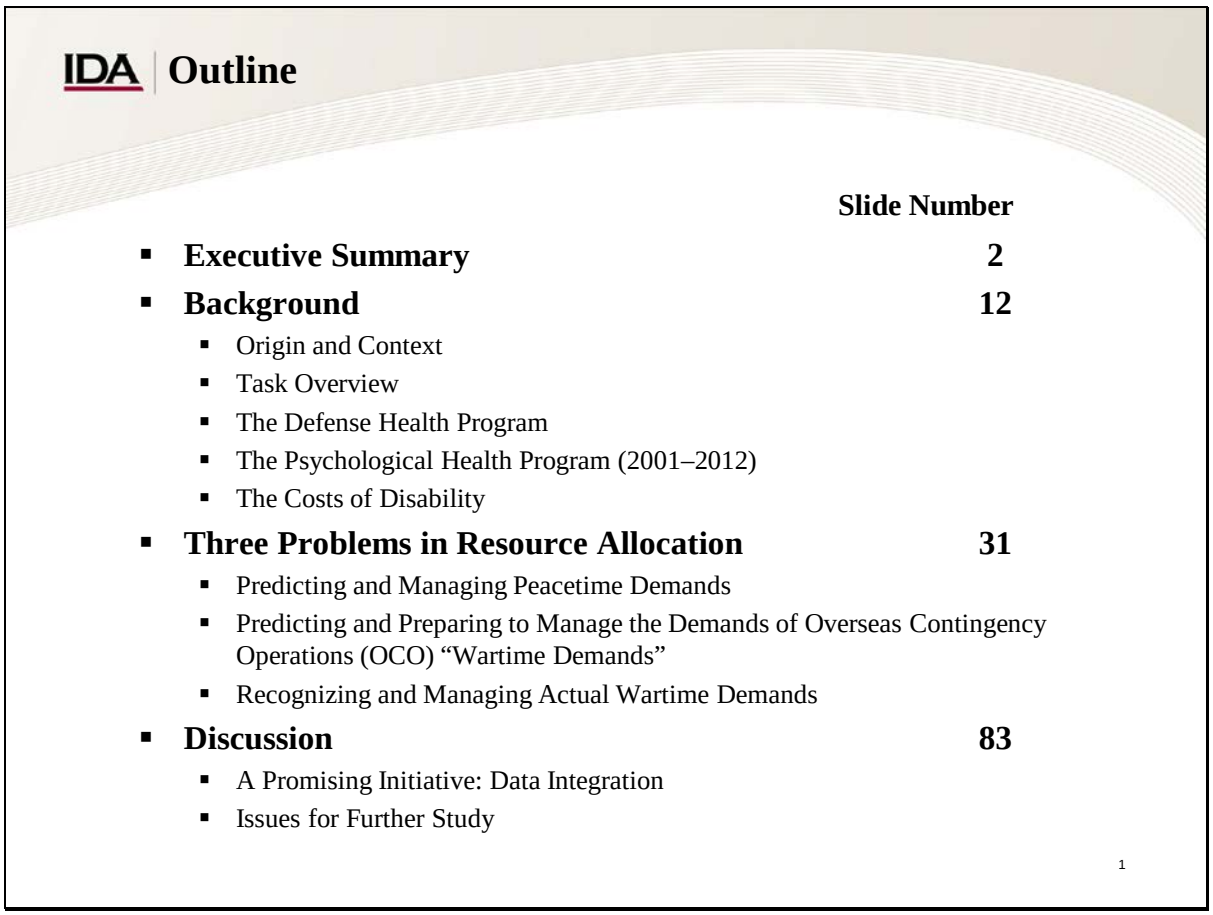
Executive Summary



This briefing was prepared for the Office of the Director, Cost Assessment and Program Evaluation, in fulfillment of the requirements of IDA task BA-6-3388.

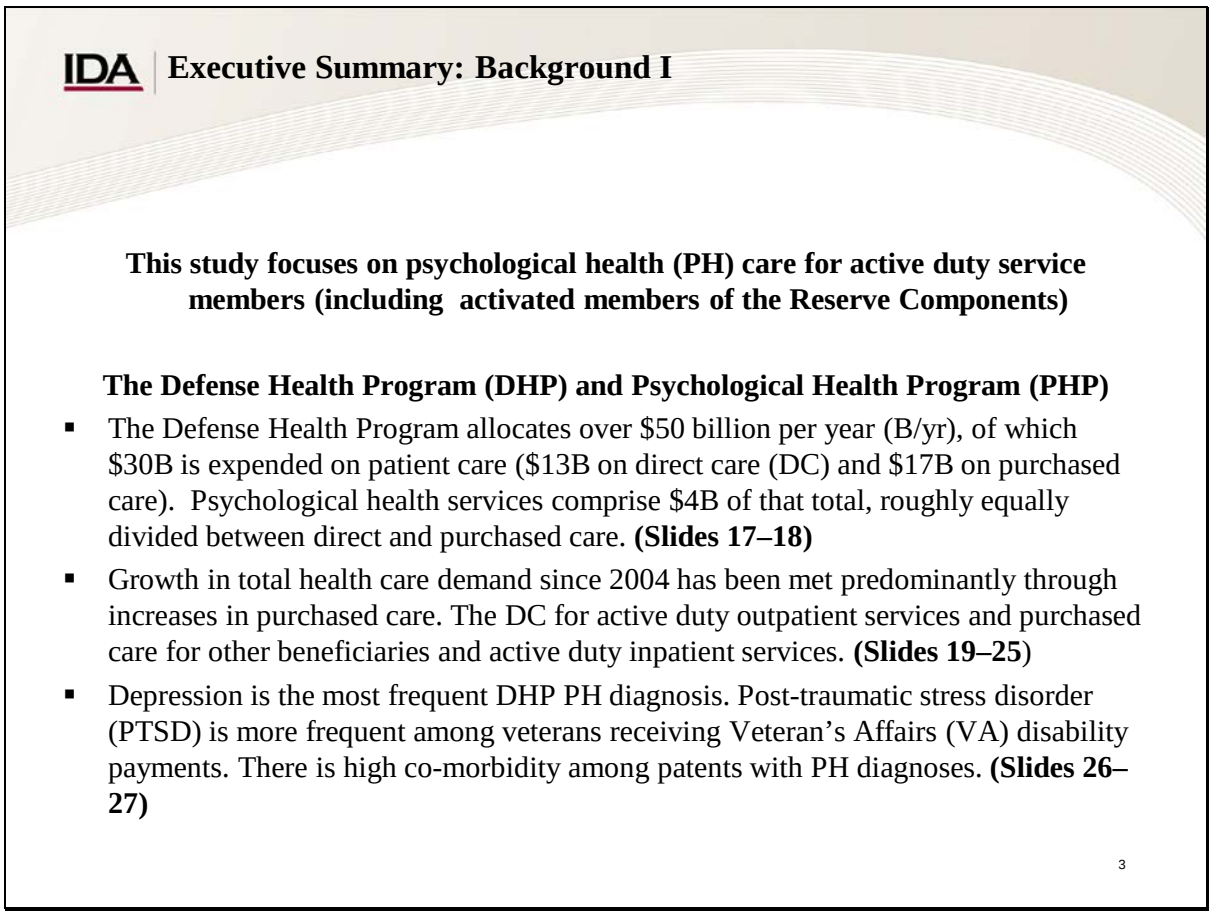


Slide 1. Outline

An outline of the briefing.

Slide 2. Title Slide Executive Summary

Executive Summary



Slide 3. Executive Summary: Background I

This study focuses particular attention on post-traumatic stress disorder (PTSD) for three reasons: first, it is frequently related to combat stress, and, thus, brings into focus inter-relationships between line and medical responsibilities for the effectiveness and treatment of service members; second, because of its historical antecedents (shell shock, battle fatigue, and combat exhaustion) and the long history of attempts to deal with them; and third, because of the very high costs it imposes in disability payments to those whom treatment has failed to cure.

In part because the symptoms of PTSD range widely in severity, estimates of its incidence vary markedly with the instruments used to detect it. This problem is explored in depth in the section of this document dealing with the prediction of wartime medical requirements.

IDA | **Executive Summary: Background II**

The Costs of Disability (Slides 28–30)

- The total number of Gulf War VA disability recipients is now larger than the number of total Vietnam War recipients (the VA Gulf War category includes all veterans discharged since the beginning of Gulf War I). Vietnam PH recipients include many more PTSD cases, and outnumber Gulf War PH recipients by 33%. This implies that the Gulf War PTSD ranks will grow with time, as the Vietnam ranks continue to do.
- In 2010, VA disability payments to 1.14 million (M) Gulf War veterans totaled $11B, of which $4.6B was for PH disabilities. These totals, likewise, will probably increase over time as the ranks of the disabled grow and as average disabilities worsen (2010 disability payments to 1.11M Vietnam veterans totaled $17B).

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Slide 4. Executive Summary: Background II

IDA | Executive Summary: Three Problems in Resource Allocation I

1. Predicting and Managing Peacetime Demands (Slides 33–36)

- Future peacetime demand is projected from current demand, with adjustments for changes in beneficiary populations, per capita demand, and inflation. Demands that exceed projections are met with additional purchased care pending a cost-effective rebalancing of DC capacity.
- There is no mechanism that automatically adjusts the peacetime process in anticipation of wartime demands.
- Planning for PH care has not received the same emphasis as planning for physical care. The Psychological Health Risk Adjusted Model for Staffing (PHRAMS), which projects staffing needs from current caseloads, is not widely applied. The Institute for Defense Analyses (IDA) could not obtain its algorithms.

2. Predicting and Preparing to Manage Wartime Demands (Slides 37–56)

- The basic Joint Operation Planning and Execution System (JOPES) algorithm:
  - Populations At Risk (PAR) x Casualty Rates = Casualties
  - Casualties x Care Requirements/Casualty = Care Requirements
  - Care Requirements x Resources/Requirement = Resources

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Slide 5. Executive Summary: Three Problems in Resource Allocation I

IDA | Executive Summary: Three Problems in Resource Allocation II

2. Predicting and Preparing to Manage Wartime Demands (cont.)

- PAR: total deployed service members in Operation Iraq Freedom/Operation Enduring Freedom (OIF/OEF) during 2001–2011 = 2.35M
- PH/PTSD Casualty rates: **(Slides 39–47)**
  - One model exists for PTSD. No application has been found.
  - Studies yield a wide range of results for PH (1% to 60%). Self reports yield 10–17% for PTSD. The RAND Corporation found 14% for PTSD among the previously deployed. Of 2.35M service members who deployed to Afghanistan or Iraq during 2001–2011, 90 thousand (K) have been diagnosed with PTSD (3.8%). The rate ranges from 0.5% for Air National Guard to 6.9% for active duty Army personnel.
  - United Kingdom (UK) service members report and are diagnosed with lower rates of PTSD: 4% for those deployed in Iraq and Afghanistan
    - Their combat exposure has been generally less than that of U.S. forces.
    - UK "frontline" treatment may be more effective.
    - Their use of alcohol is greater and better organizationally-tolerated.
    - More data are expected.
- Diagnosed PH Casualties: **(Slide 45)**
  - In 2011, 8% of active duty members had received a PH diagnosis.
  - Tricare Management Activity (TMA) assessments suggest that during their lifetimes twice as many will experience symptoms.

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Slide 6. Executive Summary: Three Problems in Resource Allocation II

IDA | Executive Summary: Three Problems in Resource Allocation III

2. Predicting and Preparing to Manage Wartime Demands (cont.)

- Care Required/Casualty: this variable cannot be satisfactorily measured **(Slides 48–58)**
  - Frontline treatment returns soldiers to duty and reduces later incidence of PTSD. It is designed to avoid medicalization of combat stress reactions. **(Slides 50–57)**
    - Landmark Israeli study affirms short-and long-term value of frontline treatment.
  - Office of the Secretary of Defense (OSD) and Services invested major efforts in designing systems and developing procedures to improve frontline treatment and monitor results. At best partially implemented, the systems have not produced comprehensive data.
  - Data regarding the efficacy of alternative treatment protocols are sorely wanting.
- Resource Requirements: absent care requirements, this variable is also undefined.
  - The problem, thus, becomes one of managing demand.

3. Recognizing and Managing Actual Wartime Demands (Slides 59–82)

- After a decade, PH/PTSD treatment demands overtax the DHP. **(Slides 59–66)**
- About 35% of PTSD cases become severe/chronic.
  - The efficacies of treatments are disputed: the Institute of Medicine (IOM) and other studies recognize the successes of Cognitive Behavioral Therapy (CBT), but opinion is divided on the merits of drug therapies.

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Slide 7. Executive Summary: Three Problems in Resource Allocation III

IDA | Executive Summary: Three Problems in Resource Allocation IV

3. Recognizing and Managing Actual Wartime Demands (cont.)

- The Department of Defense (DOD) has spent $300M to evaluate evidence-based PTSD treatments. **(Slides 68–73)**
  - Over 300 studies are in progress. Some are close to completion.
- RAND found major barriers to efficiency in DOD PH programs:
  - Proliferation: RAND identified 211 programs for PTSD and Traumatic Brain Injury. (TBI)
  - Decentralized information
  - Isolation from the existing care system
  - Common barriers, including lack of resources and the stigma of PH diseases
  - Lack of evaluation
- The Massachusetts Institute of Technology (MIT): The DHP information technology (IT) system doesn't support good PH data collection.
  - Patient data are difficult to access.
  - Data on purchased care treatment and outcomes are often inaccessible.
  - The proliferation of assessments begets confusion.
- DOD and VA are intensifying efforts to improve outcome assessments. **(Slides 74–80)**
  - There is a growing consensus on the value of psychotherapy.
  - Improved DOD tracking shows increases in PTSD and depression remission rates.
- VA PTSD disability rates appear to exceed DOD diagnostic rates **(Slides 81–83)**
  - Between 2004–2011, increase in number of VA Gulf War PTSD disability recipients exceeded the number of active-duty PTSD diagnoses.
  - It is not possible to estimate the number of fraudulent claims.

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Slide 8. Executive Summary: Three Problems in Resource Allocation IV

IDA | Executive Summary: Discussion I Promising Initiatives

Data Integration

- Health Affairs' Office of Strategy Management has schematically defined the relationships between military status and health status in two flow charts. **(Slides 81–83)**
  - The flow charts implicitly identify crucial points for the collection of data to support assessments of treatment efficacy and to improve coordination between DOD and the Veterans Administration.
  - The success of the system will depend greatly on the quality of the available data regarding the medical and military histories of patients *before they enter it*. This is particularly true of patients seeking care for deployment-related health problems.
  - Neither class of data is available today. It will take major investments and years of effort to make them available in the future.

Adoption of Porter's Patient Outcome Model of Value in Health Care

- In 2012, TMA adopted a new model to measure and improve patient outcomes. **(Slide 83)**
  - Designed by Harvard Business School Professor Michael Porter to promote a true patient outcome focused value of health care model
  - Goes beyond survival to consider quality of life, recovery progress, long-term consequences of care

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Slide 9. Executive Summary: Discussion I Promising Initiatives

Discussion: II. Options (1 of 2)

1. To improve the identification and management of wartime medical demands:
   - Refine and standardize the designs for systems to collect, consolidate, and analyze medical data during overseas contingency operations (OCO)
   - Establish programs to gather and analyze data within each component and jointly
   - Establish formal organizational processes to review the analyses and to adjust DHP capabilities rapidly

2. To improve OCO planning:
   - Refine and standardize PH casualty rates and care requirements factors
   - Refine and institutionalize staffing models
   - Develop OCO plans to augment PH capabilities rapidly in wartime

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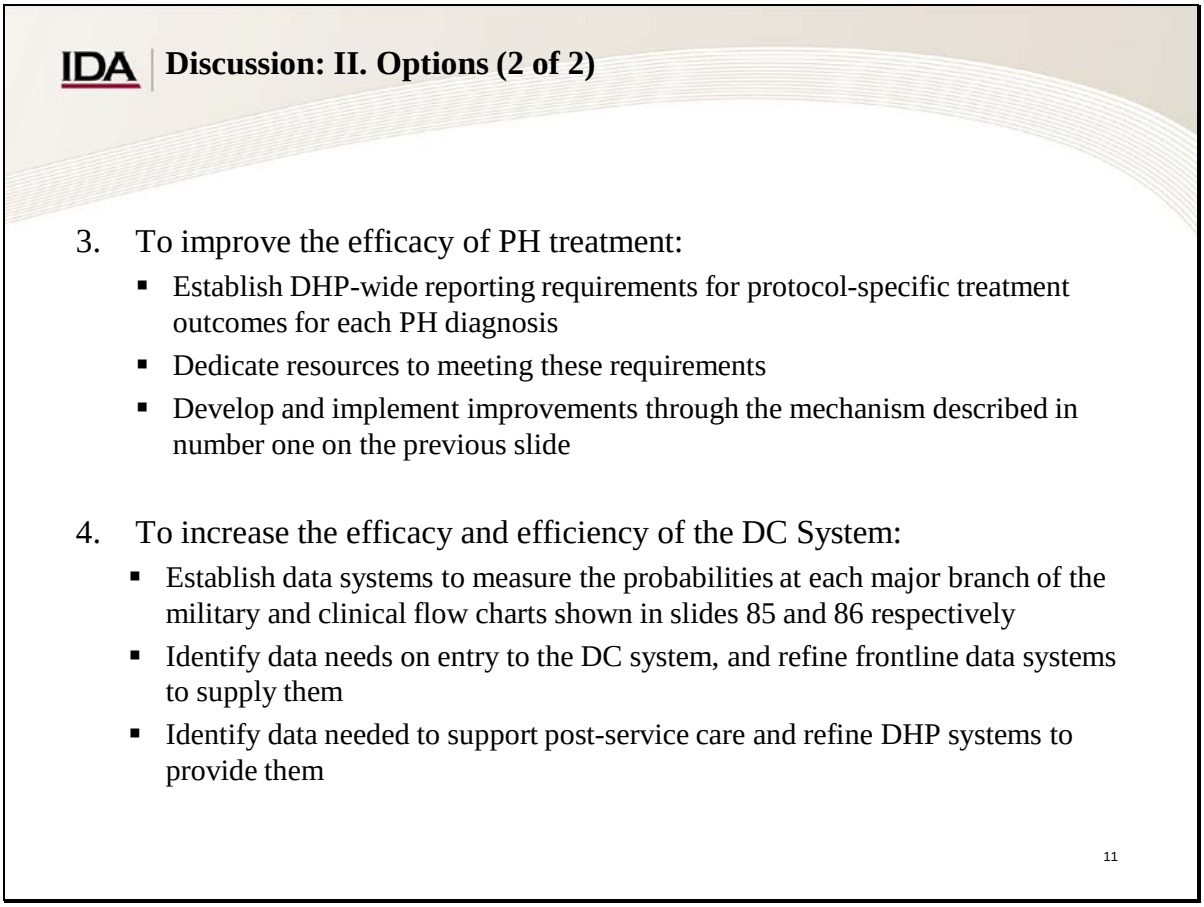
Slide 10. Discussion: II Options (1 of 2)

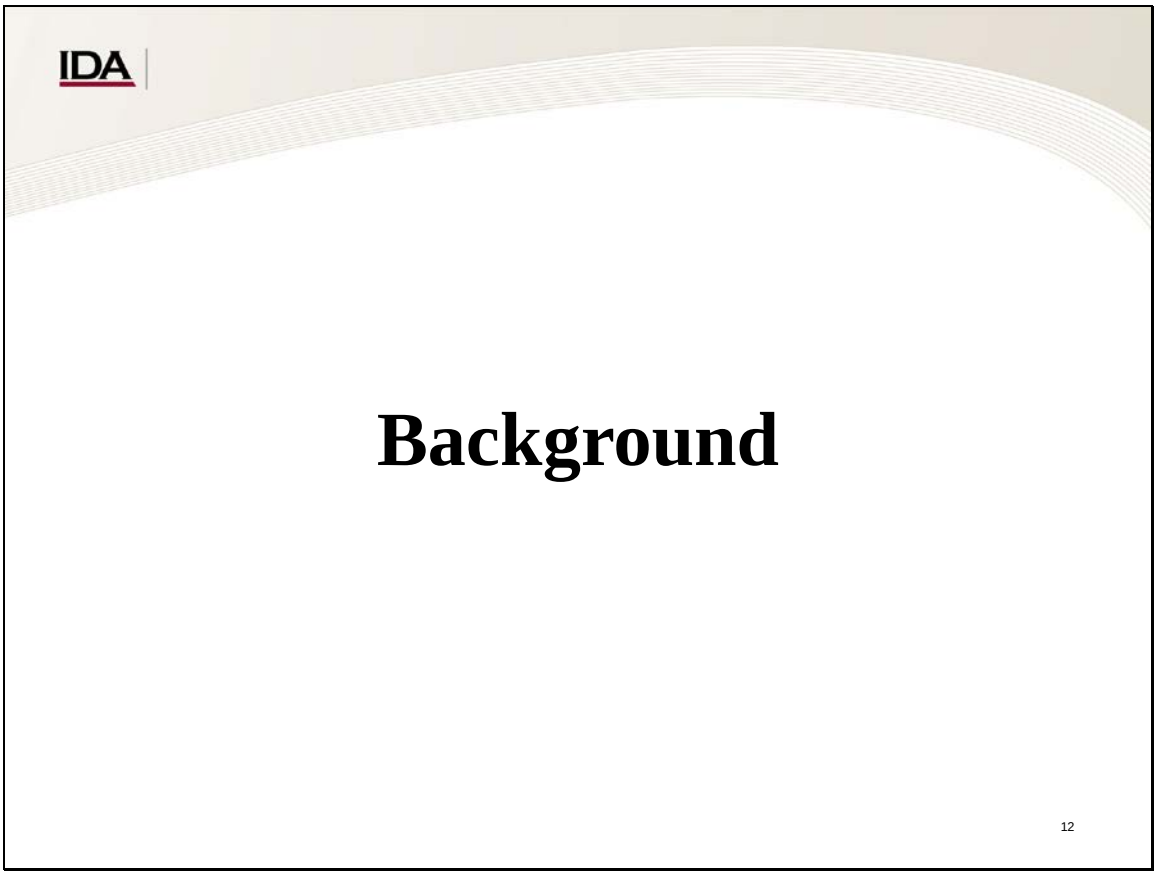


Slide 11. Discussion: II Options (2 of 2)

Contents

Appendices

1. Background



Slide 12. Background

IDA | Background: Origin

On March 13, 2011, Secretary of Defense Robert M. Gates directed a Front End Assessment (FEA) of Family Programs and Mental Healthcare in the Department of Defense

Subsequently:

- The Institute for Defense Analyses (IDA) proposed a study of psychological health (PH) programs focused on deployment-related problems
- Cost Assessment Program Evaluation (CAPE), Economic and Manpower Analysis Division sponsored Task BA-6-3388

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Slide 13. Background: Origin

IDA | Background: Context

During this study there were major changes in the United States Department of Defense (DOD) assessment of, attitude toward, and management of PH problems arising from protracted overseas contingency operations (OCO).

- Much of the data presented here only became available in March 2012.
- The Tricare Management Activity (TMA) convened a Strategic Planning Workshop on "Longitudinal Study of Medical Requirements for Wounded, Ill, or Injured Service Members," on March 15, 2012.
  - *Initiatives presented at the workshop promise great improvements in the planning and management of DOD PH programs.*

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Slide 14. Background: Context

IDA | Background: Task Overview

Objective

- Develop an overview and evaluation of the information architecture supporting the decision processes that determine the size, shape, and scope of activities and the workforce required to provide PH services to service members and their dependents before, during, and after deployment
- Assess the consistency and sufficiency of the data and decision processes
- Compare the measures of effectiveness used by DOD to those used elsewhere in U.S. Government (USG) and other nations
  - Specifically the United Kingdom (UK) and Israel

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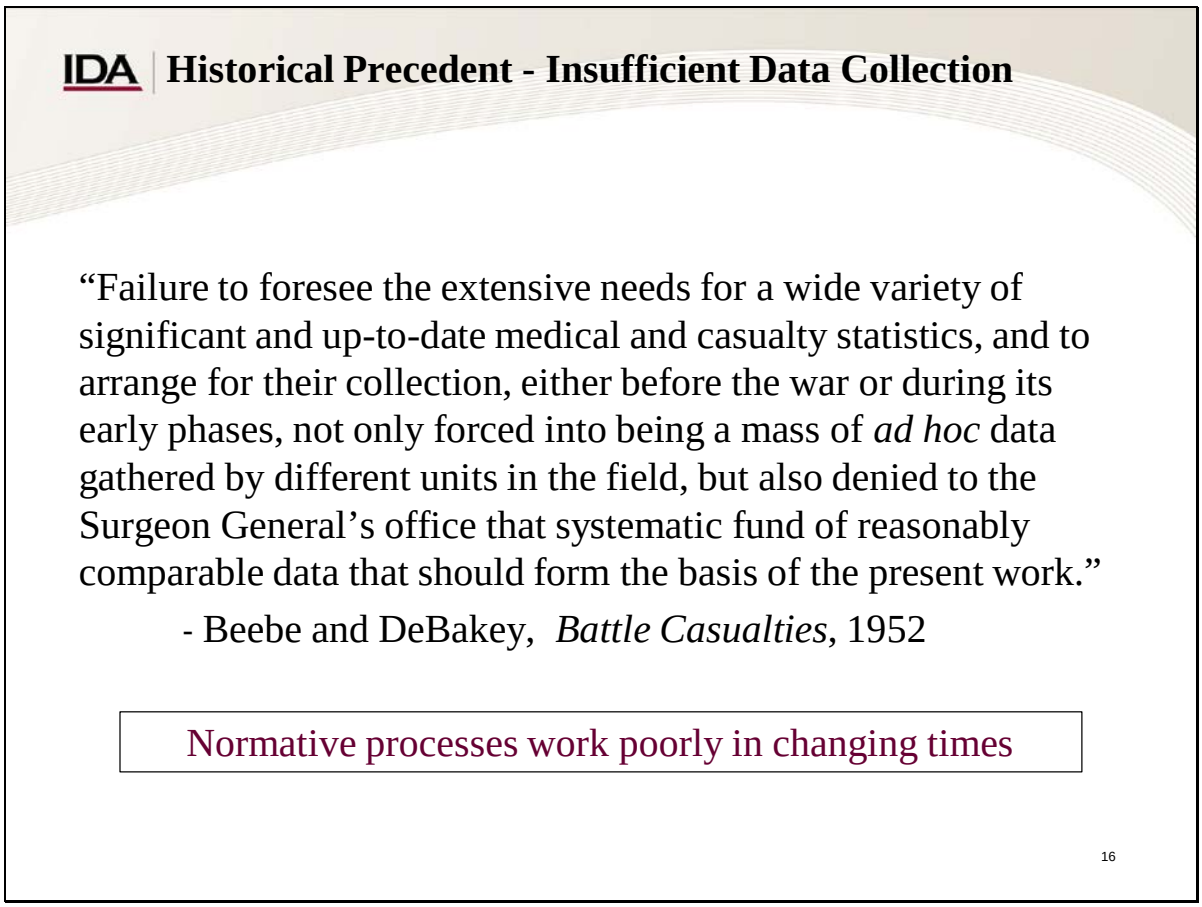
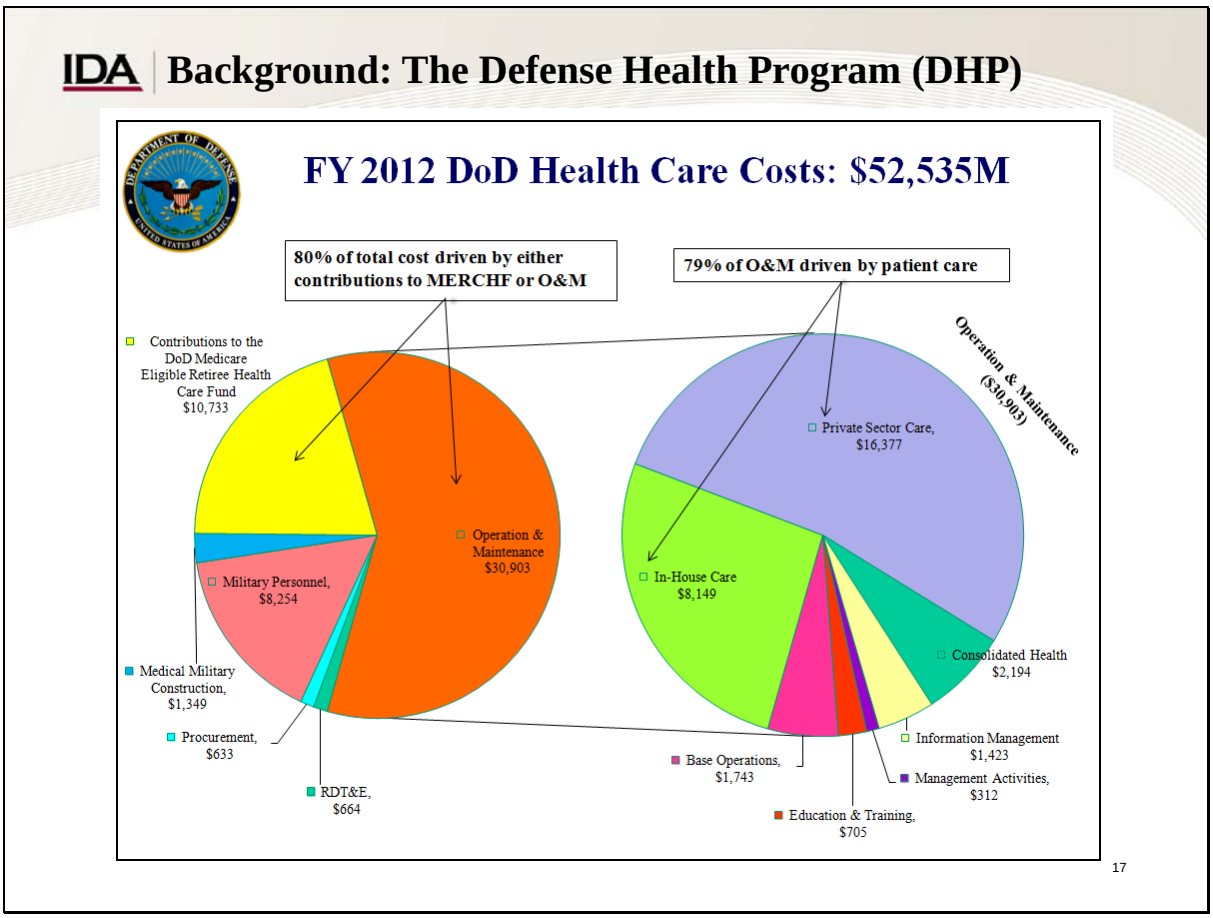
Slide 15. Background: Task Overview



Slide 16. Historical Precedent—Insufficient Data Collection

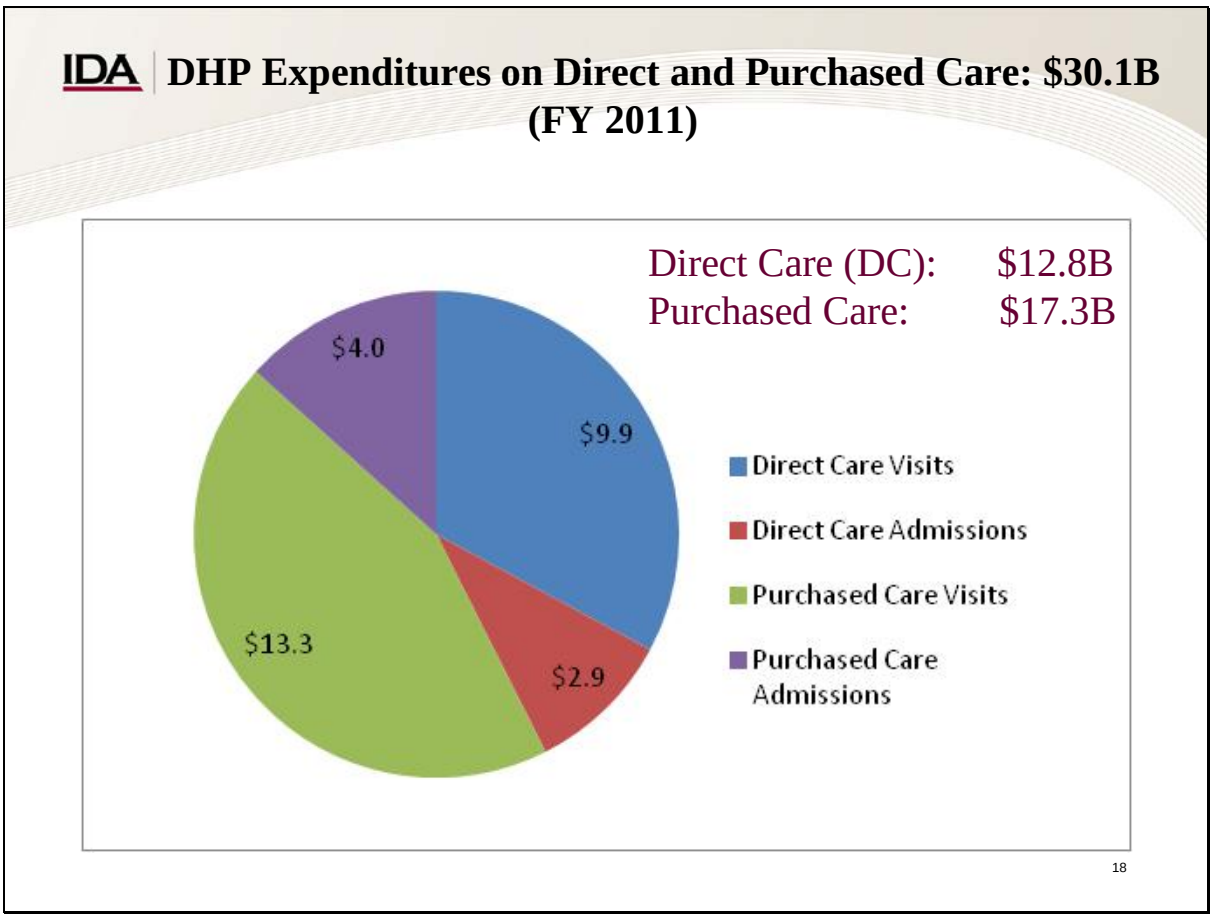
Gilbert W. Beebe and Michael E. DeBakey wrote *Battle Casualties* as private citizens, to fill the void left by governmental inaction. *Medical Statistics in World War II,* the Army's official account, was published in 1975. Frank A. Reister's *Battle Casualties and Medical Statistics in the Korean War* was published in 1973. No comparable documents are available for subsequent conflicts.



Note: FY = Fiscal Year, MERCHF = Medicare Eligible Retiree Health Care Fund, O&M = Operation and Maintenance, RDT&E = Research Development Test and Evaluation, M = millions.

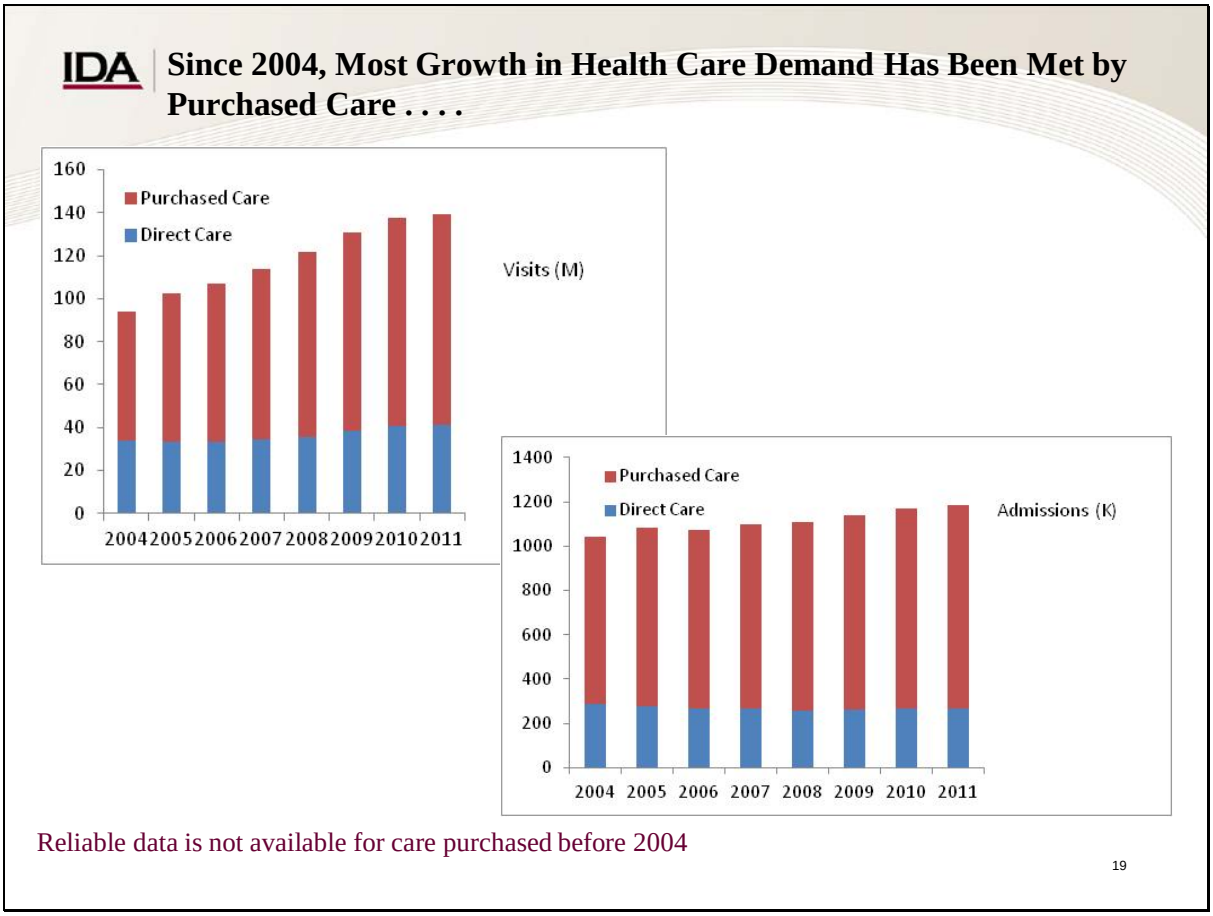
Slide 17. Background: The Defense Health Program

The Defense Health Program (DHP) budgets and tracks costs largely by in-house versus private sector care and DOD budget categories—not program costs.



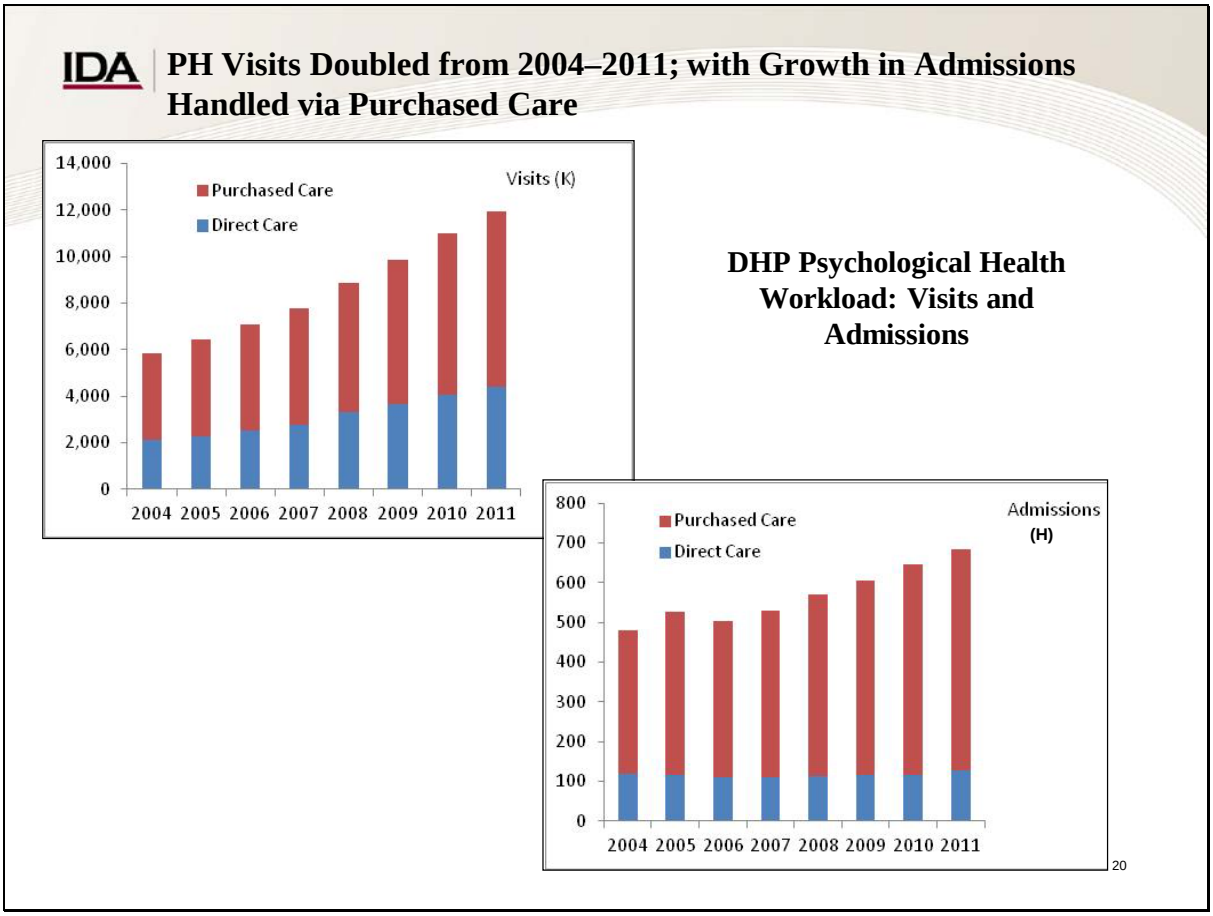
Note: B = billions

Slide 18. DHP Expenditure on Direct and Purchased Care: $30.1B (FY 2011)



Note: K = thousands

Slide 19. Since 2004, Most Growth in Health Care Met by Purchased Care



Note: H = hundreds

Slide 20. PH Visits Doubled from 2004–2009

IDA

. . . Increase in Active Duty Visits, Most of Total Increase, Accommodated by DC System; Dependents/Retired Handled through Purchased Care

2004–2011 Growth in PH Workload by Source and Beneficiary Category

	2004	2011	Δ	DC Δ	% DC
Total Visits (K)					
Active Duty	1,182	3,363	2,181	1,825	84%
Active Duty Dependents	1,774	3,280	1,506	233	15%
Other	2,550	4,759	2,209	149	7%
Total	5,506	11,402	5,896	2,207	37%
Total Admissions					
Active Duty	12,280	23,208	10,928	1,980	18%
Active Duty Dependents	11,358	16,238	4,880	-275	-6%
Other	20,374	25,747	5,373	-296	-6%
Total	44,012	65,193	21,181	1,409	7%

Total visits doubled. The increase in active duty visits, which accounted for most of the total increase, was predominantly accommodated in the DC system. Increases in visits by the dependents of active duty members and by other beneficiaries were predominantly accommodated through purchased care. These results are dictated by the priorities for DC. Total admissions increased by 48%. For all categories of beneficiaries, most of the additional admissions were accommodated through purchased care.

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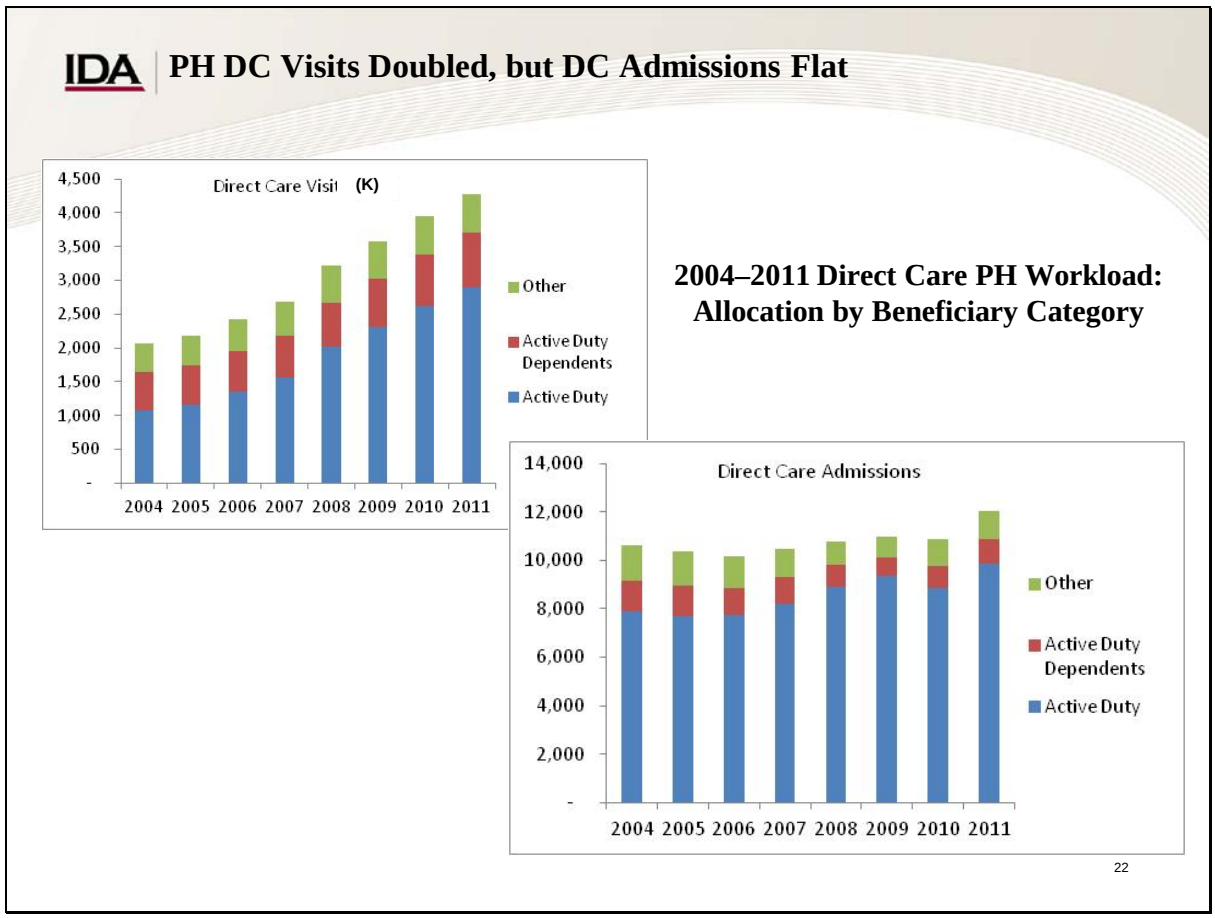
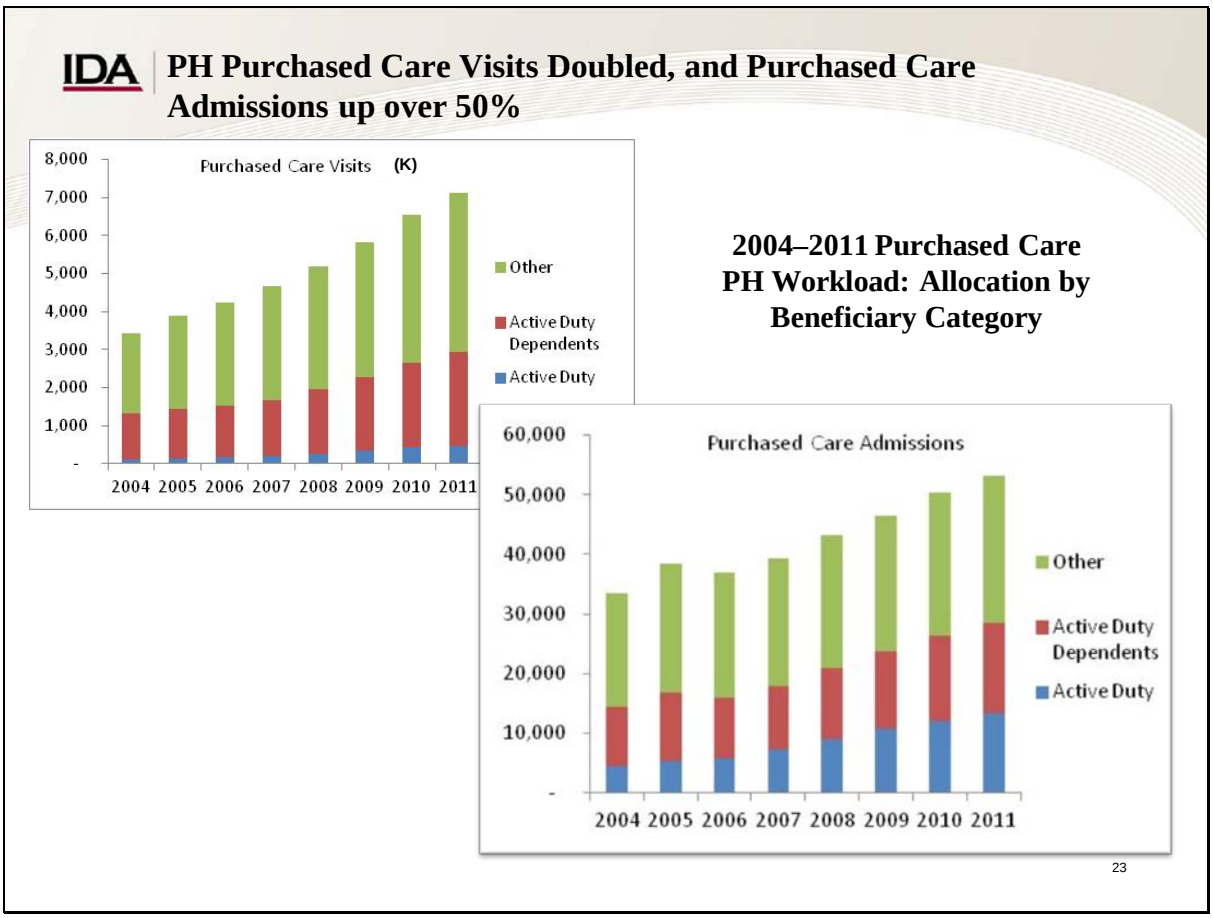
Slide 21. Increase in Active Duty Visits Accommodated by Direct Care System



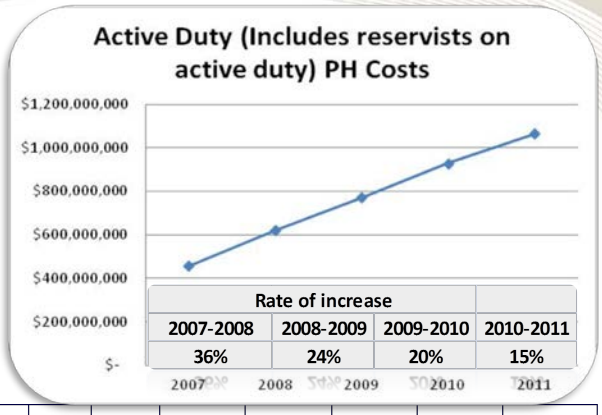
Slide 22. PH Direct Care Visits Doubled



Slide 23. PH Purchased Care Visits Doubled

TMA Did Not Start Breaking Out PH Program Costs until 2007 when Congress Budgeted Dedicated Funds for Post-traumatic Stress Disorder (PTSD)

- In 2007 Congress appropriated special funds for PTSD, so TMA started breaking out spending by PH programs
- Unlike dental and pharmacy programs and costs, PH costs still lumped into overall Military Health System (MHS) budget program elements (PE) and categories (direct vs. purchased care)
- PH costs for active duty have increased 133% over the past 4 years (2007 to 2011)
- Rate of increase falling (due to both bigger base and decline in deployed troops)



Total MHSS Psychological Health Workload and Costs, 2001-2011

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Active Duty (Includes reservists on active duty)											
Workload											
Direct-Care Visits							1,245,543	1,558,472	1,700,624	1,924,844	1,975,002
Purchased Care Visits							119,277	166,847	220,104	332,128	370,131
Direct Care Admissions							8,990	10,509	12,018	12,385	13,720
Direct Care inpatient days											
Purchased Care Admissions							6,818	8,194	10,047	12,885	14,566
Purchased Care inpatient days											
Costs											
Direct-Care Visits							$ 278,444,525	$ 386,513,537	$ 453,564,198	$ 539,853,923	$ 609,935,440
Purchased Care Visits							$ 32,860,275	$ 45,347,031	$ 54,194,205	$ 62,476,433	$ 72,922,138
Direct Care Admissions							$ 92,472,227	$ 115,523,437	$ 160,292,149	$ 175,819,670	$ 201,693,689
Purchased Care Admissions							$ 53,194,853	$ 74,463,871	$ 104,456,294	$ 149,951,952	$ 180,266,077
						TOTAL	$ 456,971,879	$ 621,847,876	$ 772,506,846	$ 928,101,979	$ 1,064,817,344

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Source: Data provided by Ron Henke, TMA.

Slide 24. TMA Did Not Start Breaking Out PH Program Costs Until 2007

IDA | PH Costs about 16% of Total DHP Care Costs for Deployed Troops

PH Costs only:

Deployed Cohort	Total Costs for Deployed and 3 years after	Per Capita
FY03	$ 113,304,951	$ 1,647
FY04	$ 172,790,810	$ 1,548
FY05	$ 183,432,717	$ 1,411
FY06	$ 193,066,368	$ 1,782
FY07	$ 270,948,491	$ 2,222

Any DHP Care Costs:

Deployed Cohort	Total Costs for Deployed and 3 years after	Per Capita
FY03	$ 606,714,125	$ 8,820
FY04	$ 1,027,912,333	$ 9,207
FY05	$ 1,261,642,494	$ 9,704
FY06	$ 1,201,237,832	$ 11,086
FY07	$ 1,608,455,142	$ 13,192

Source: Kennell and Associates/Defense Manpower Data Center (DMDC) data, provided by TMA

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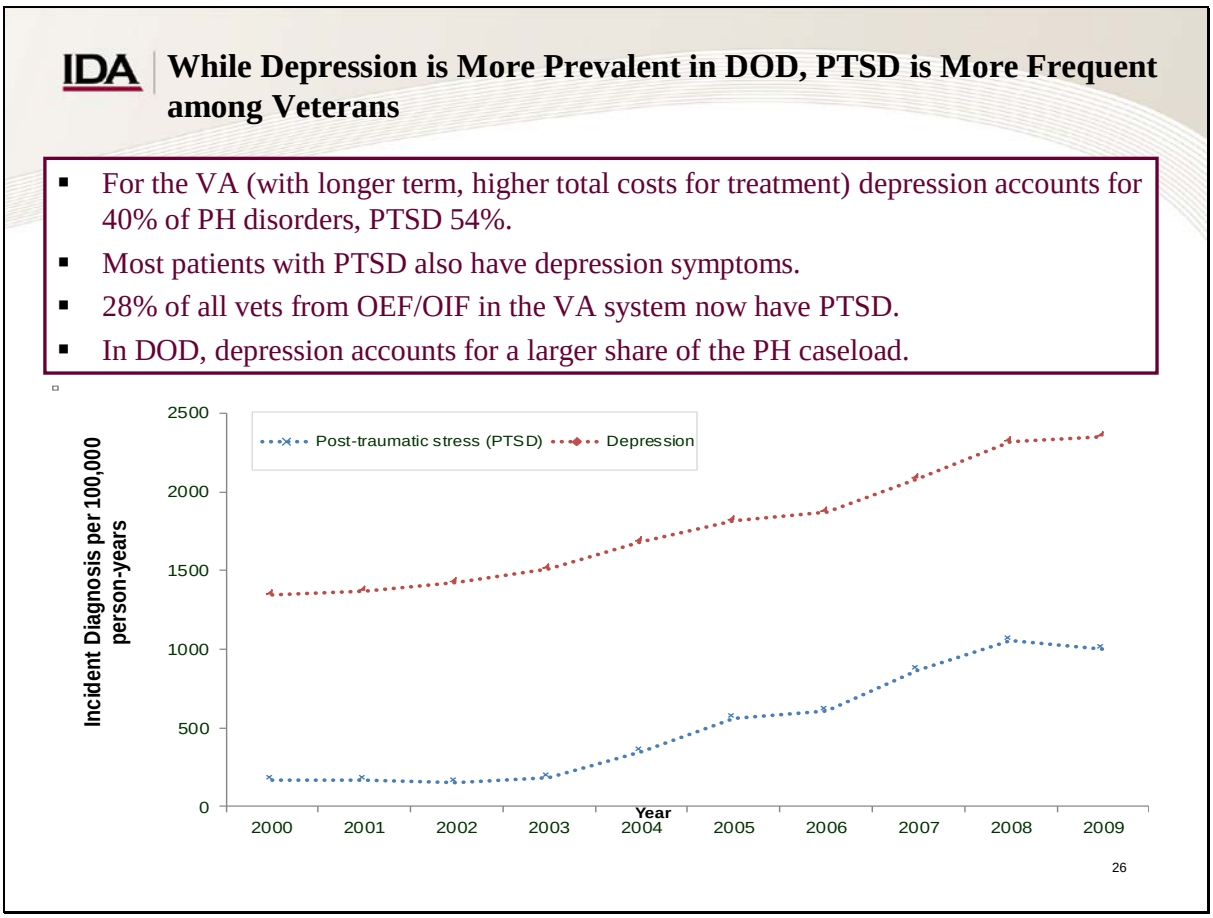
Slide 25. PH Costs About 16% of Total DHP Care Costs for Deployed Troops



Note: OEF = Operation Enduring Freedom, OIF = Operation Iraqi Freedom

Source: Roberts and Schnurr 2012.

Slide 26. Depression is More Prevalent in DOD, PTSD More Frequent Among Veterans

IDA | Vets with PTSD Have Very High Co-morbidity Rates with Other PH, Substance Abuse Problems; No Agreement on Best Way to Treat

- The National Vietnam Veterans Readjustment Study (NVVRS) reported that 99% of Vietnam Vets with lifetime PTSD also met criteria for at least one other psychiatric disorder.
- Co-occurrence rate of PTSD and substance abuse among OIF/OEF vets is between 25–50%.
- There is no consensus, as of 2010, on best treatment; concurrent, sequential, or "integrated" (concurrent treatment by the same care provider).
- Veterans with mental illness and substance abuse disorders are a large and growing population with severe, complex, and long-lasting disorders.
  - Despite representing only 15% of the VA patient population in 2007, veterans with these problems accounted for one-third of all VA medical costs.
- From 2004–2008, the number of veterans with PH and substance abuse conditions increased by 39%.

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Sources: Kulka et al. 1990, cited in National Research Council, 2008; Gulliver and Steffen 2010; Watkins et al. 2011, *Cost and Quality*; Watkins et al. 2011, *Veterans Health Administration.*

Slide 27. Vets with PTSD Have Very High Co-Morbidity Rates

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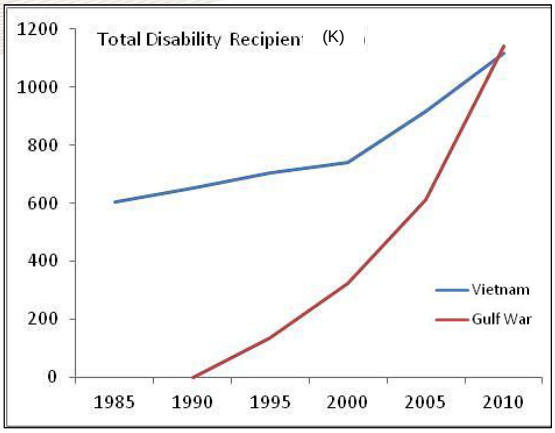
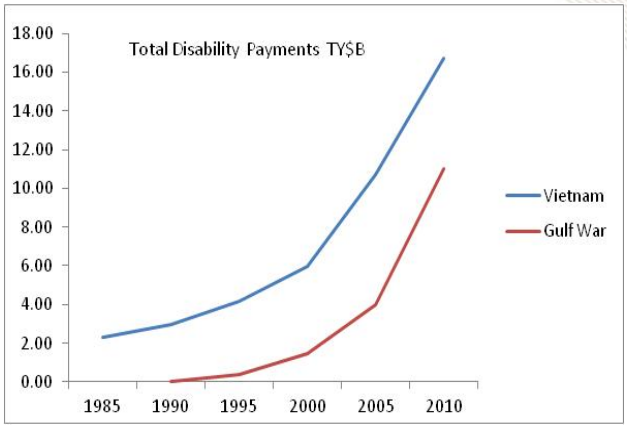
More Veterans are Successfully Seeking VA Disability and Average Compensation is Increasing





VA Disability Recipients and Total Payments, All Causes

- From 2004–2008, number of vets with PH and substance abuse conditions up 39%
- VA classifies all veterans who entered service after 1987 as Gulf War Veterans
- Gulf War disability recipients now outnumber Vietnam War VA disability recipients
- Growth in number of recipients among the vets of both wars accelerated after 2001
- Growth in total payments to both groups accelerated after 2005

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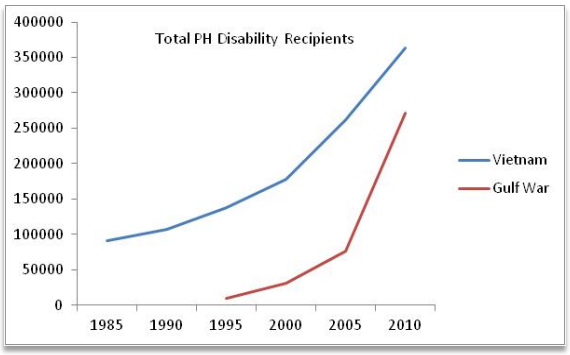
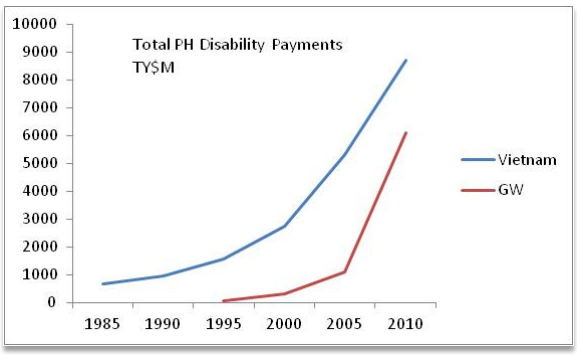
Note: TY$B = then year billions

Slide 28. More Veterans Seeking VA Disability and Average Compensation Increasing

VA PH Disability Recipients and Total Payments Experiencing More Rapid Growth . . . .





The previous slides show total disabilities, while these graphs show only PH disabilities .
The next slide shows only PTSD disabilities

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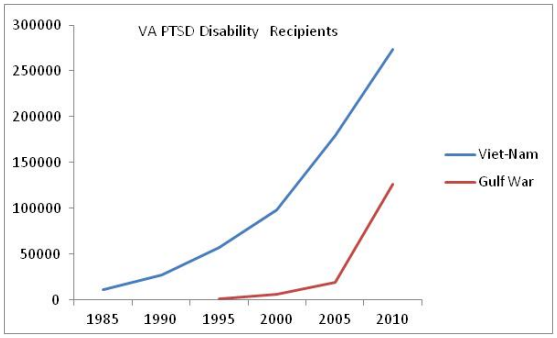
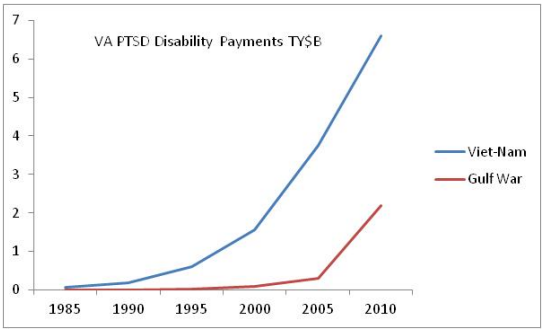
Note: TY$M = then year millions

Slide 29. VA PH Disability Recipients and Total Payments Experience Rapid Growth (1 of 2)

IDA | . . . VA PTSD Disability Recipients and Total Payments Up from Almost Nothing in 1985 to ~400K and ~$9B/YR Today





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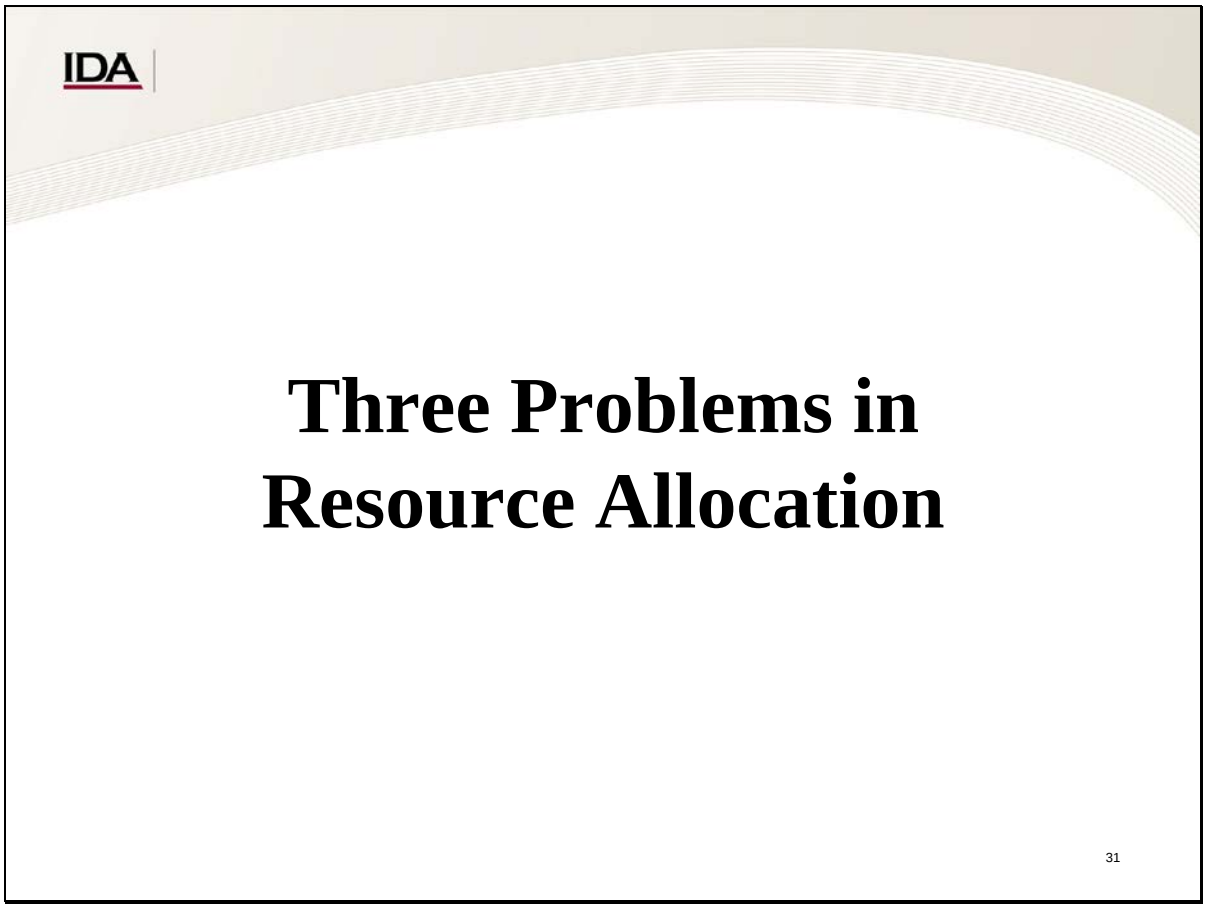
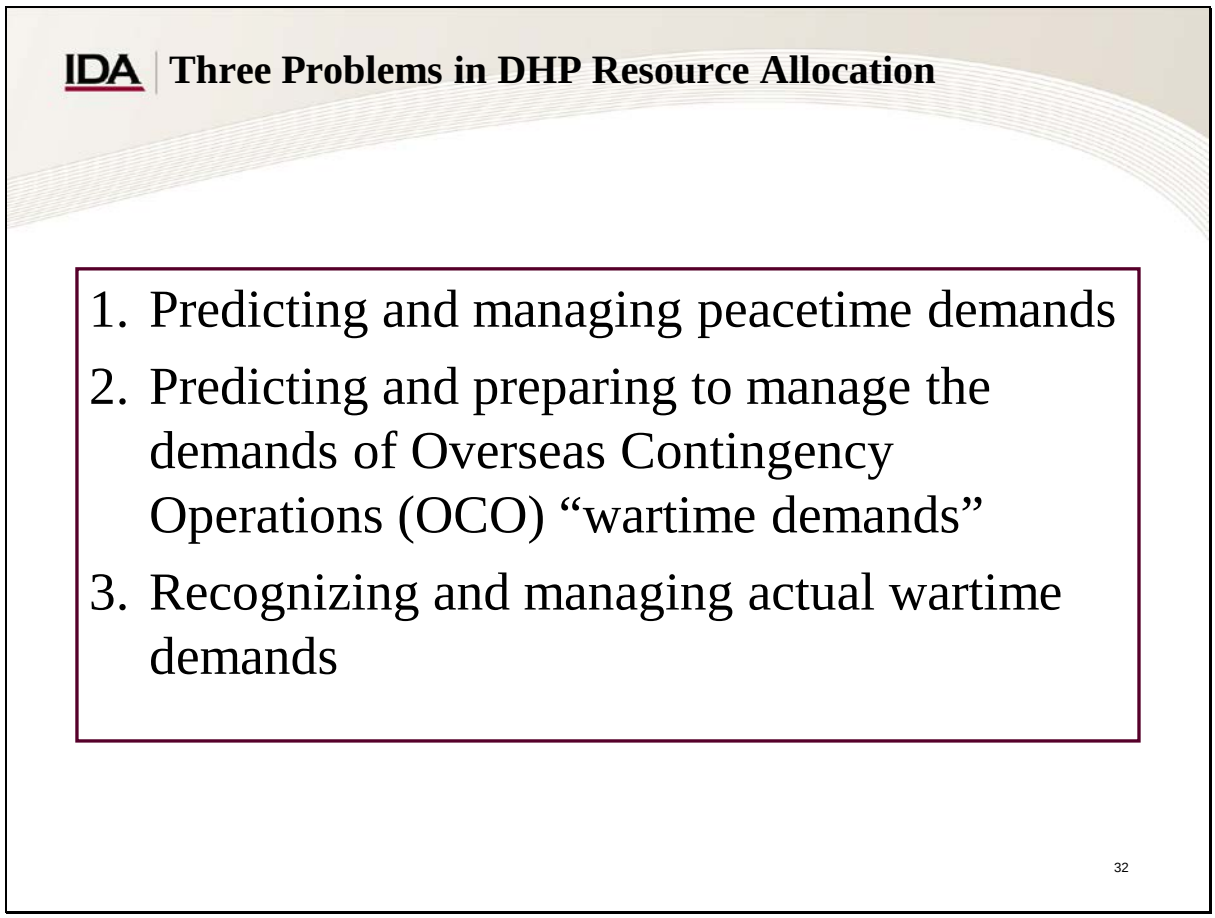
Slide 30. VA PTSD Disability Recipients and Total Payments Up from 1985 (2 of 2)

2. Three Problems in Resource Allocation



Slide 31. Three Problems in Resource Allocation



Slide 32. Three Problems in DHP Resource Allocation

IDA | Normative Peacetime Medical Resource Allocation

- Prior workloads and costs provide baselines.
- Adjustments are made for changes in beneficiary populations, per capita demand, and inflation.
- Care in excess of planned capacity is purchased.

Basic Questions

1. How do we estimate/project changes in the driving variables?
2. How do we define the benefit?

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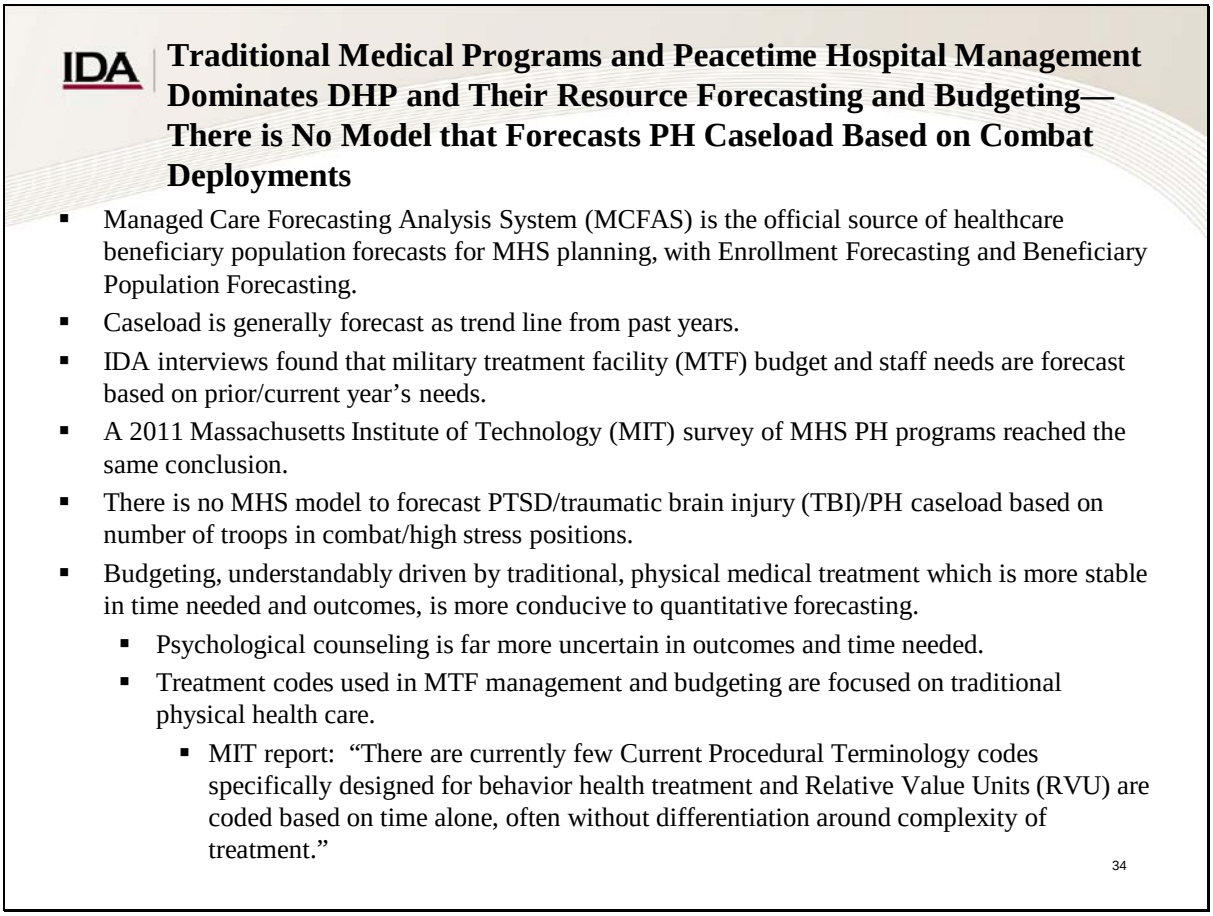
Slide 33. Normative Peacetime Medical Resource Allocation



Sources: IDA Interviews; MIT 2011.

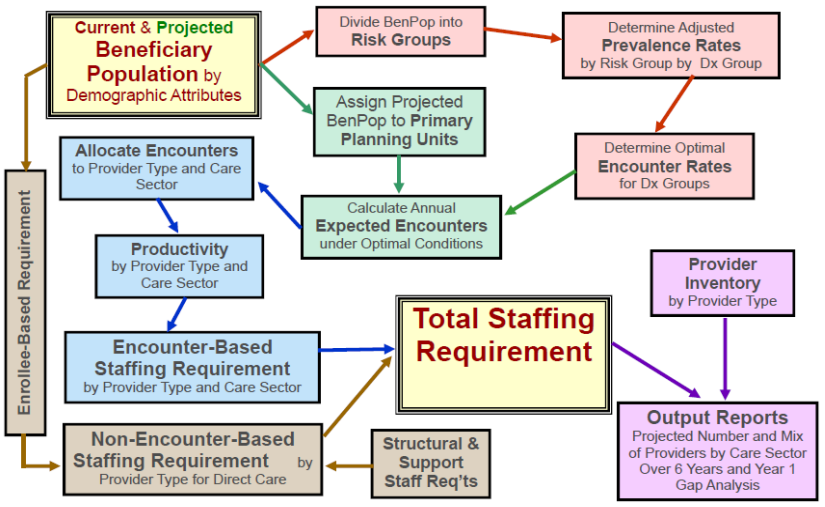
Slide 34. Traditional Medical Programs Dominate DHP Forecasting and Budgeting

IDA | PHRAMS Projects PH Caseload and Staff Needs Based on Recent Caseload

PHRAMS
Psychological Health
Risk-Adjusted Model for Staffing

- PHRAMS diagram with high level overview has no mention of combat stress modeling.
- IDA requested briefings on PHRAMS from CNA, repeated follow up, not granted access to details on model.

PHRAMS Flow diagram



35

Note: Dx = Diagnostic, BenPop = Beneficiary Population

Source: Harris and Marr 2011.

Slide 35. Psychological Health Risk-Adjusted Model for Staffing Projects

TMA/DCOE Staff Are Not Aware of Any Models that Predict PH/PTSD Caseload, and Are Skeptical That This is Feasible

- IDA interviewed many personnel in TMA, DCOE, and U.S. Army. None using any model to forecast PH caseload from Iraq, Afghan, or generic combat/deployment operation.
- Some believe such a model is not feasible due to:
  - Varying combat intensity, exposure to trauma
  - Hard to predict number of troops deployed
  - Uncertainty of treatment efficacy and outcomes

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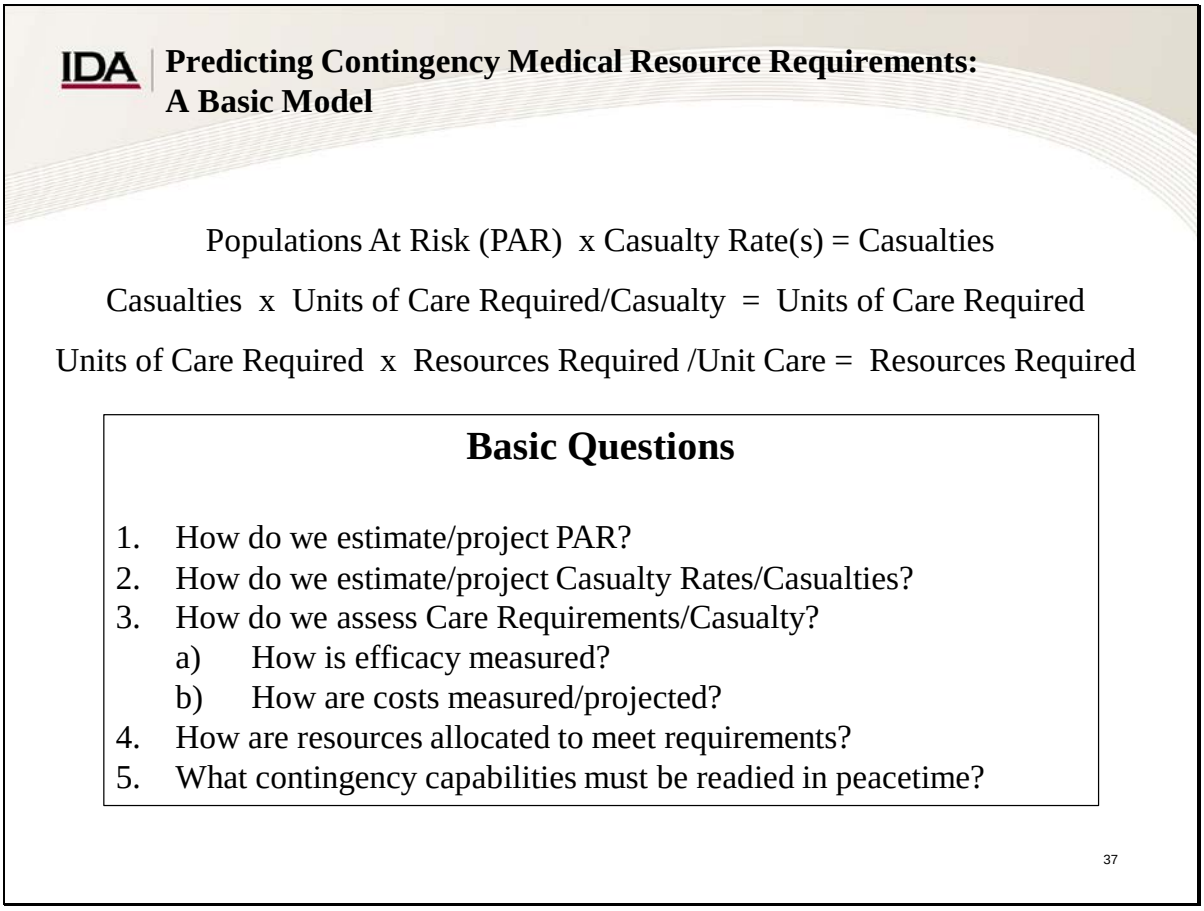
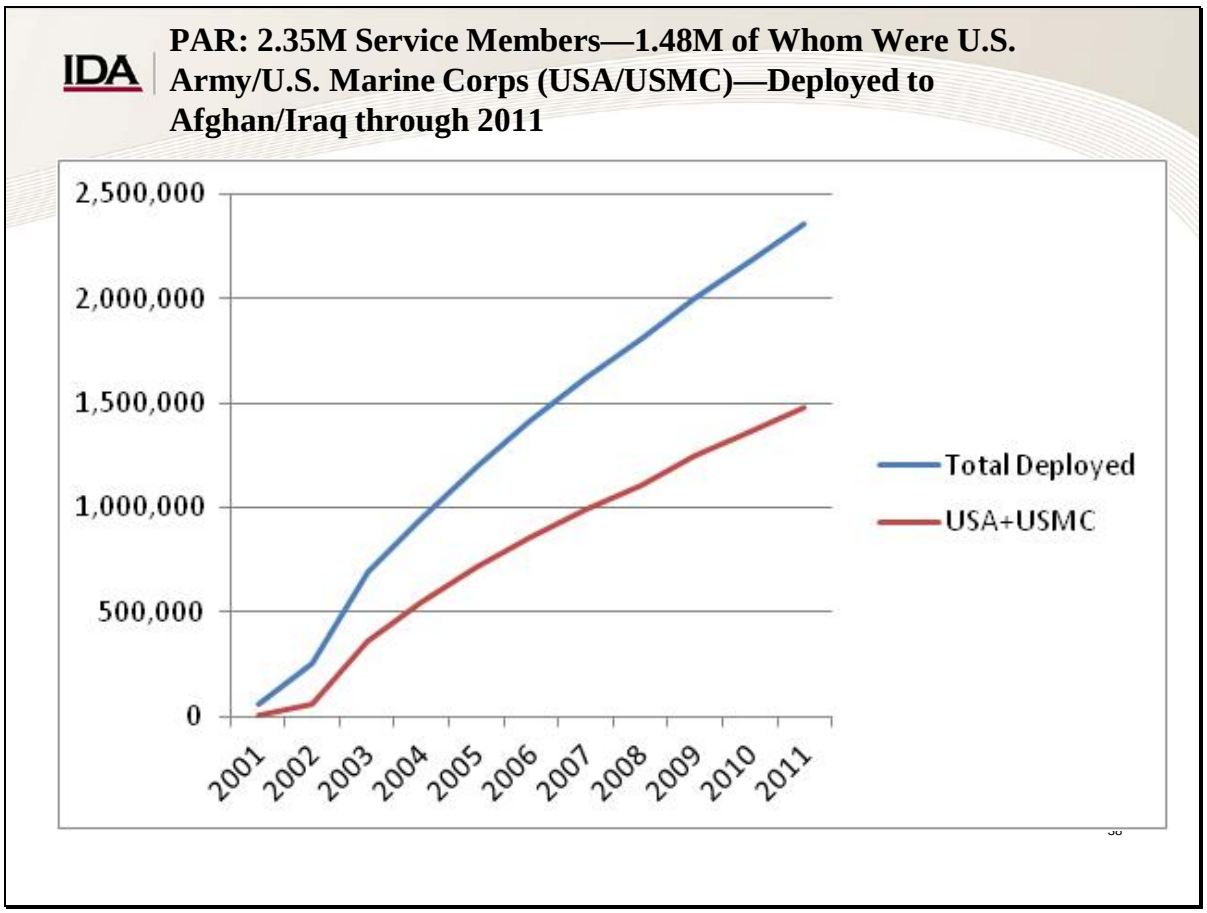
Slide 36. TMA/DCOE Staff



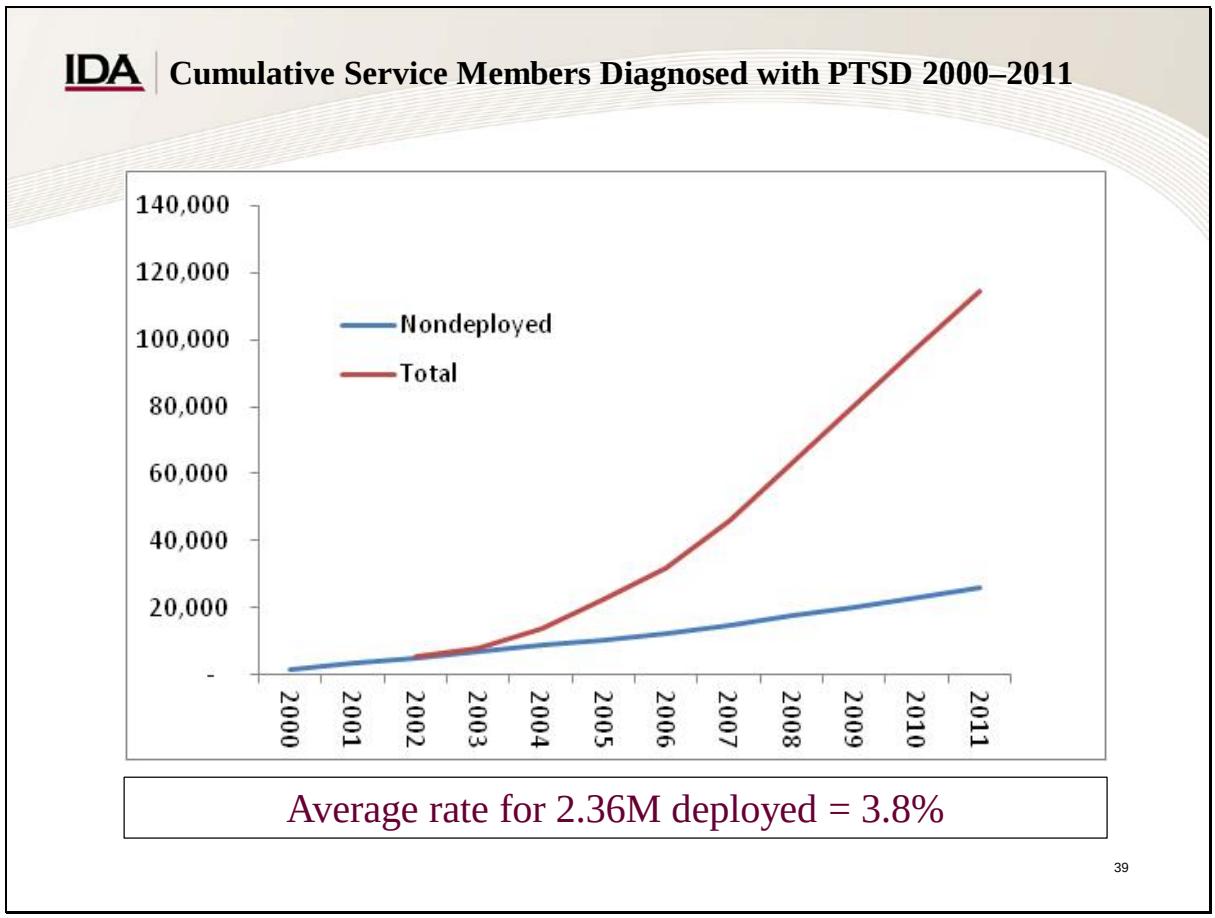
Slide 37. Predicting Contingency Medical Resource Requirements: A Basic Model

The basic model described in Slide 37 is the foundation of the Medical Planning Module of the Joint Operations Planning and Execution System (JOPES).



Slide 38. Populations At Risk (PAR)

In standard DOD practice, the PAR is determined by the schedule of force deployments. In wartime, the PAR is determined from actual deployments, as recorded in the DMDC records.



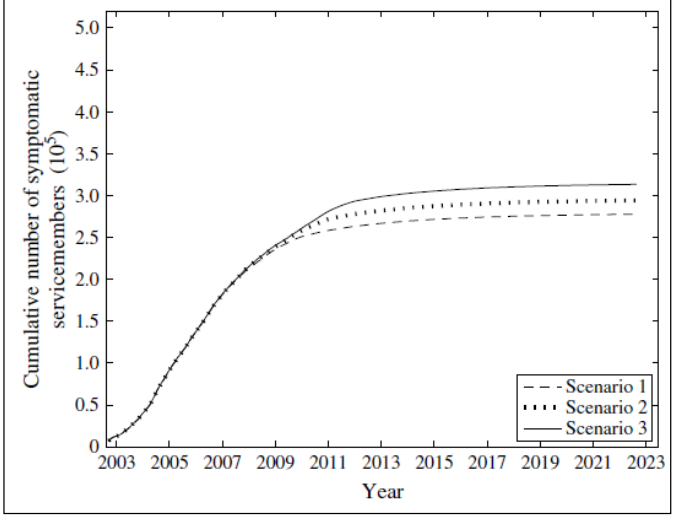
Slide 39. Cumulative Service Members Diagnosed with PTSD 2000–2011

Casualty Rates: Identified One Model Built to Forecast PTSD Caseloads

IDA

- Naval Postgraduate School (NPS) and Stanford University professors developed a dynamic model of OIF service members incurring a random amount of combat stress per month of deployment, developing PTSD if cumulative stress exceeds a service member specific threshold, then developing symptoms after time lag.
- NPS/Stanford used Mental Health Advisory Team PTSD survey data to calibrate model.
- Estimated 300,000 PTSD cases of PTSD for Army and Marines from Iraq only (not Afghanistan, not other services in Iraq)
- Model has two parts, a deployment model and PTSD model.
- Service member with PTSD experiences a lognormal time lag between time when cumulative stress level exceeds threshold and when symptoms first develop.
- Second time lag occurs between manifestation of symptoms and delay in reporting them.
- NPS/Stanford do not model length of time PTSD persists–in their model, once you have PTSD you do not recover.
- No evidence this model ever applied by TMA

Figure 1 Cumulative Number of Symptomatic Servicemembers for the Three Withdrawal Scenarios, as Predicted by the Model



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Source: Atkinson, Guetz, and Wein 2009. Michael P. Atkinson is in the Department of Operations Research at the Naval Postgraduate School, Adam Guetz is at Stanford Institute for Computational and Mathematical Engineering, Lawrence M. Wein is at the Stanford Graduate School of Business.

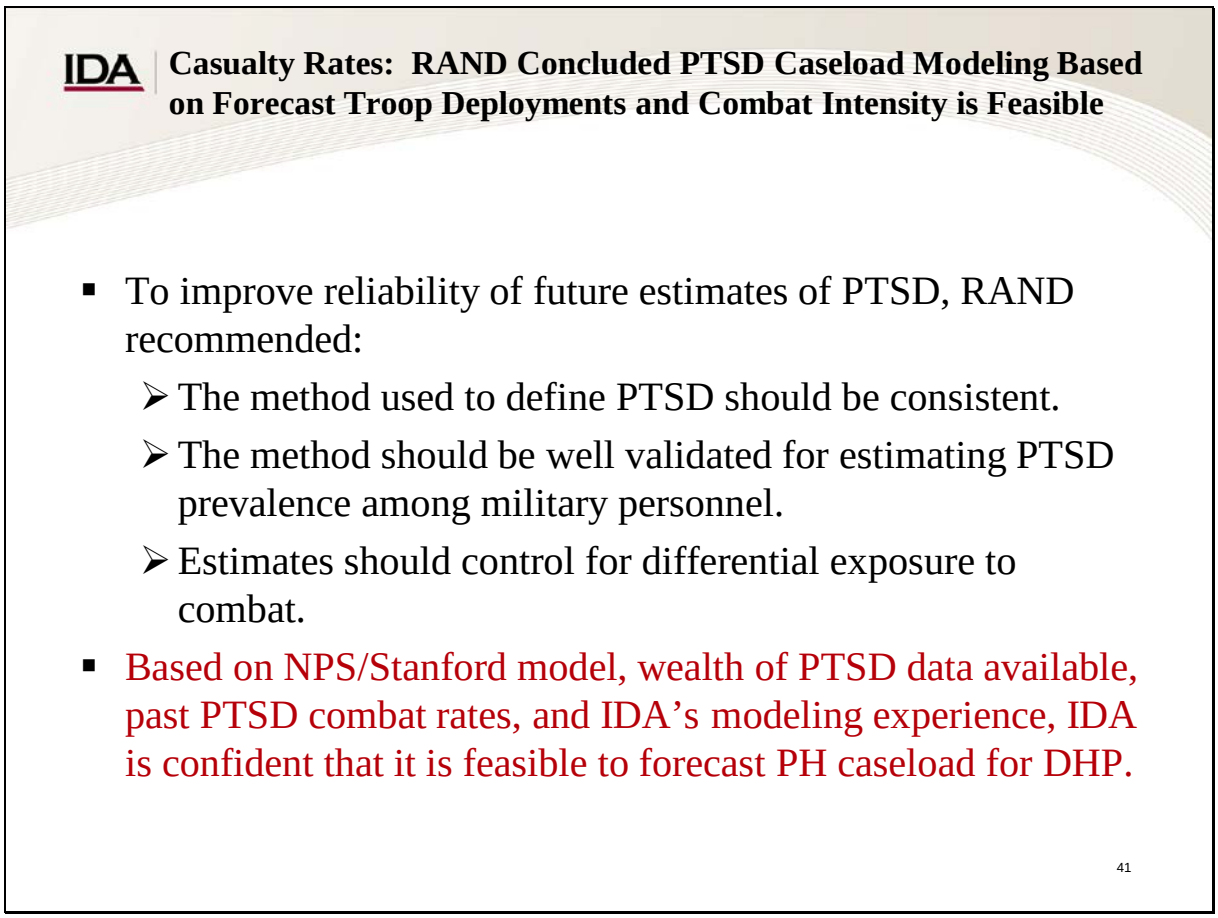
Slide 40. Casualty Rates: Identified One Model Built to Forecast PTSD Caseloads

The Naval Postgraduate School/Stanford University (NPS/Stanford) model overestimates PTSD rate for Marines exposed to average amounts of trauma; it is possible that Marines are better equipped to handle stress or are perhaps less inclined to admit PTSD symptoms than Army soldiers (Atkinson, Guetz, and Wein 2009, 1460).

The NPS/Stanford model also estimates higher rates of PTSD for OIF service members than for those who served during the Vietnam War. Kulka et al. (1990) in *Trauma and the Vietnam War Generation: Report of the Findings from the National Vietnam Veterans Readjustment Study* estimated a PTSD rate of 15% for Vietnam Vets 15 years after leaving military and that 30% would develop PTSD in their lifetime; although a recent reevaluation of that study by Dohrenwend et al. in 2006 estimated that the figure was closer to 20%.

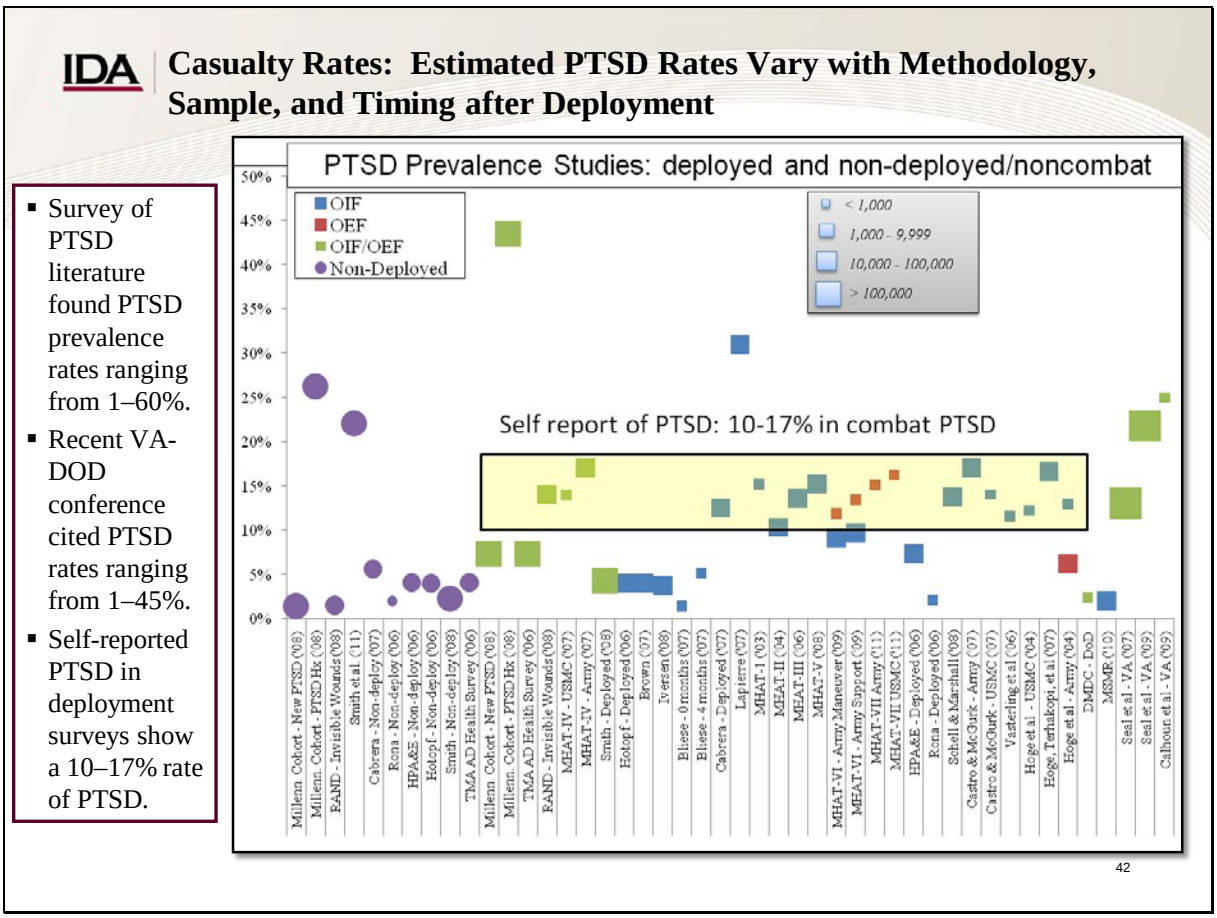
The Mental Health Advisory Team (MHAT) study they based their model on applied to combat units; which may have higher PTSD rates as a result of OIF than non-combatant deployed troops. However, Atkinson, Guetz, and Wein believe that their "results are likely to be conservative, that is, they are likely to underestimate the true number of service members that

will experience PTSD for several reasons" (Atkinson, Guetz, and Wein 2009, 1464). They contend that the majority of the general U.S. population with PH problems do not receive treatment and that veterans with PTSD typically require three to six months of intensive treatment if there are no co-morbidities (like alcohol abuse). Due to time delays in developing, reporting PTSD, "raw survey data of active service members during OIF is likely to significantly underestimate the number of PTSD cases ultimately generated." (Atkinson, Guetz, and Wein 2009, 1466).



Source: Ramchand et al. 2010.

Slide 41. Casualty Rates: RAND Concluded PTSD Caseload Modeling is Feasible



Sources: Ibid., Roberts and Schnurr 2012.

Slide 42. Casualty Rates: Estimated PTSD Rates Vary

IDA | RAND's Major PTSD Study Estimated a 14% Rate of PTSD for OEF/OIF, 20% Rate of TBI

- The 2008 RAND study "Invisible Wounds of War" estimated at least 14% rate of probable PTSD.
- RAND insists that these rates are likely low projections of caseload that will rise over time.
- TBI cases are estimated at 20%, with most having several ailments.

Table 4.4
Overall Rates of Probable PTSD, Major Depression, and TBI with Co-Morbidity (*N*=1,965)

Condition	Weighted Percentage	95% CI LL	95% CI UL	Population LL	Population UL
Probable PTSD	13.8	11.1	16.5	181,000	270,000
Probable major depression	13.7	11.0	16.4	181,000	270,000
Probable TBI	19.5	16.4	22.7	269,000	372,000
Co-morbidity					
No condition	69.3	65.7	73.0	1,079,000	1,198,000
PTSD only	3.6	2.0	5.2	32,000	86,000
Depression only	4.0	2.4	5.5	40,000	91,000
TBI only	12.2	9.6	14.8	157,000	243,000
PTSD and depression	3.6	2.3	4.8	38,000	79,000
PTSD and TBI	1.1	0.6	1.7	10,000	27,000
TBI and depression	0.7	0.1	1.4	1,000	22,000
PTSD, depression, and TBI	5.5	3.6	7.4	58,000	121,000

NOTES: Based on 1.64 million individuals deployed to OEF/OIF, assuming that the rate found in the sample is representative of the population. CI = confidence interval; LL = lower limit; UL = upper limit.

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Source: Adamson et al. 2008, 97.

Slide 43. RAND's Major PTSD Study

Casualty Rates: Post-deployment PH Assessments a Major Source of Data for PH Incidence Estimates

- *National Defense Authorization Act* (NDAA) *for FY 2010* required DOD to implement person-to-person PH assessments for each member of Armed Forces deployed in OCOs, four times:
  - Within 2 months before estimated date of deployment
  - 3–6 months after return from deployment
  - 7–12 mo after return from deployment
  - 6–24 mo after return from deployment
- Post-Deployment Health Assessment, originally developed in 1998, was revised and updated in 2003.
  - All soldiers received it upon redeployment.
- TMA has conducted telephone surveys with service members returning from operational deployment (Afghanistan and Iraq) since May 2007.
- Deputy Asst. Sec. Def. for Force Health Protection and Readiness "will coordinate an evidence-based assessment of the effectiveness of these mental health assessments in accordance with the required 'Reports on Implementation of Guidance' specified in Section 708 of the *NDAA for FY 10*."

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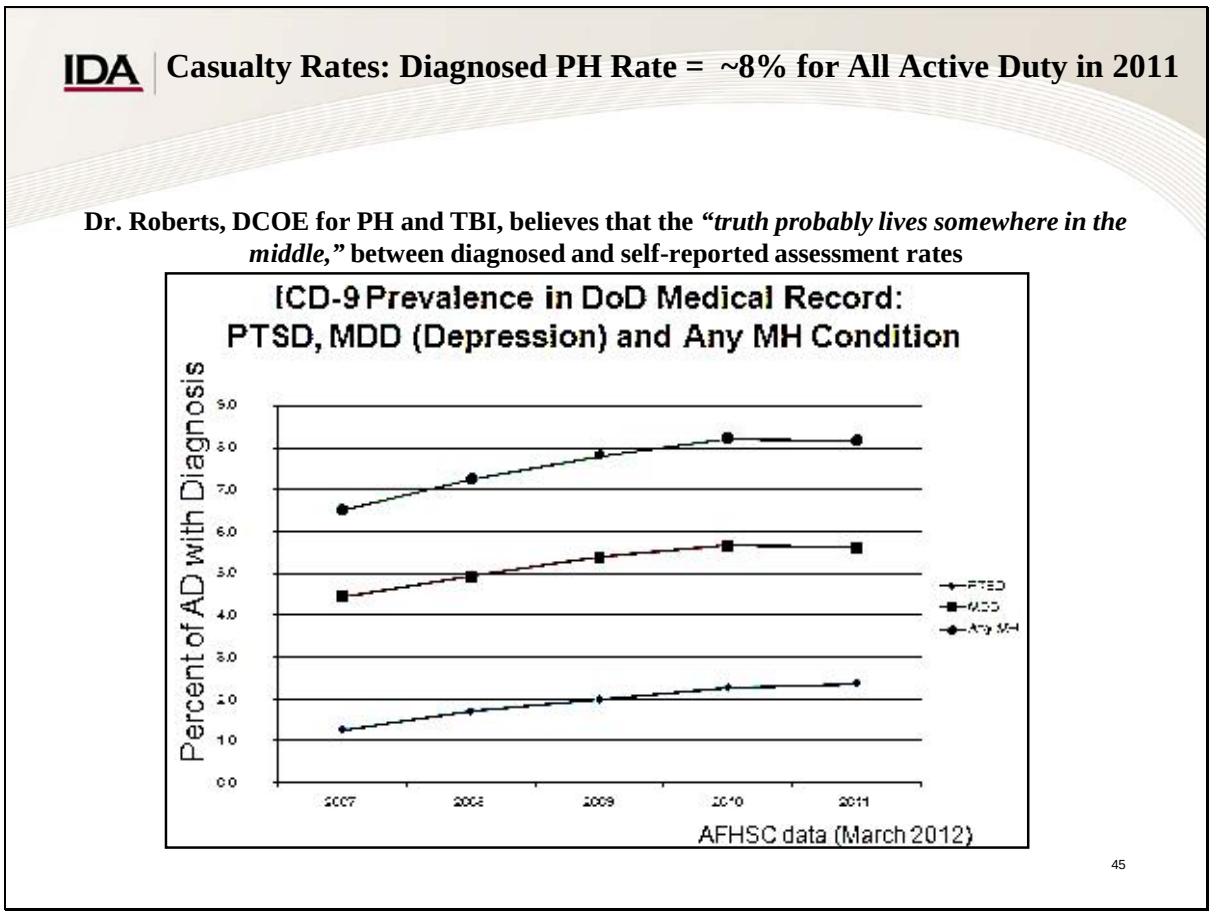
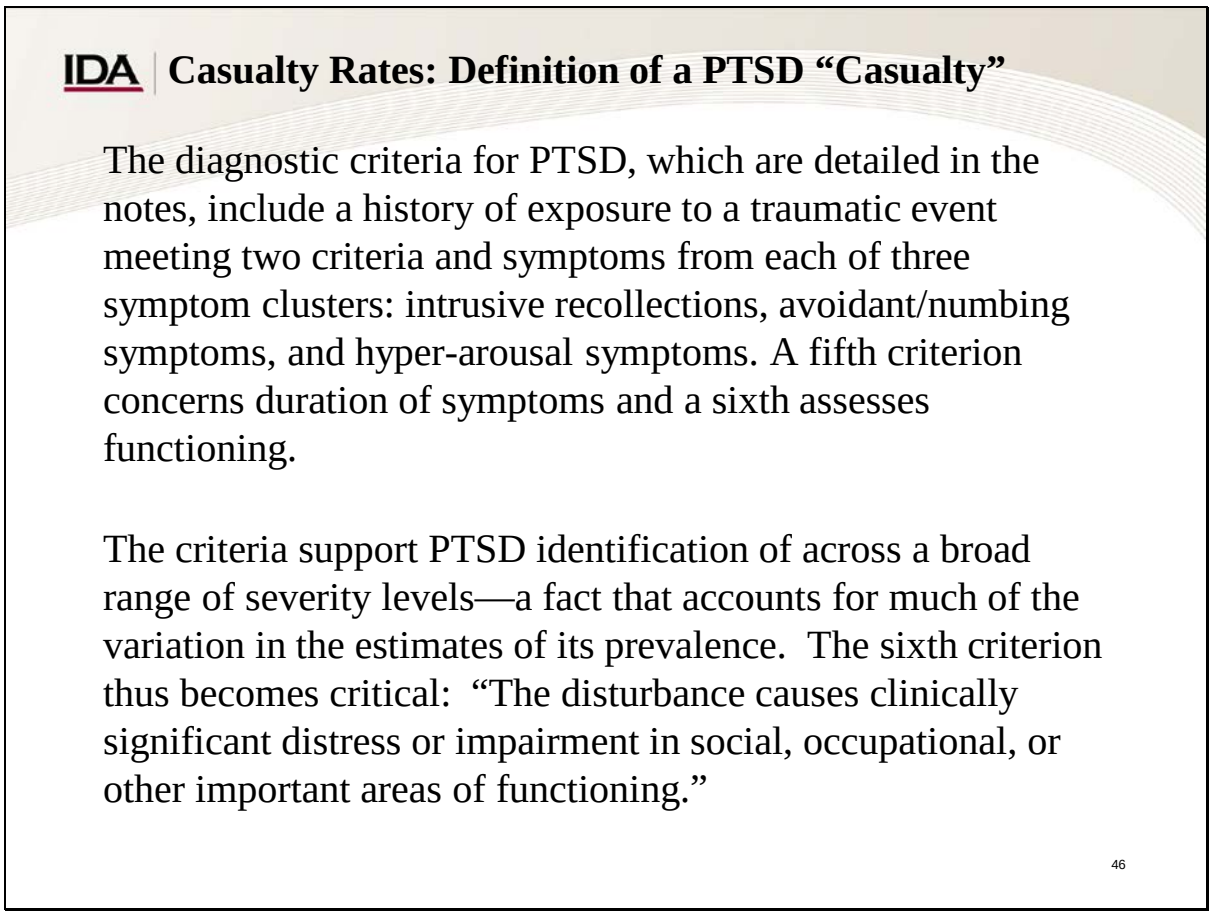
Slide 44. Casualty Rates: Post-deployment PH Assessments



Source: Roberts and Schnurr 2012.

Slide 45. Casualty Rates: Diagnosed PH Rate



Slide 46. Casualty Rates: Definition of a PTSD "Casualty"

DSM Criteria for PTSD

In 2000, the American Psychiatric Association revised the PTSD diagnostic criteria in the fourth edition of its *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR)(1). The diagnostic criteria (A–F) are specified below.

The diagnostic criteria for PTSD include a history of exposure to a traumatic event meeting two criteria and symptoms from each of three symptom clusters: intrusive recollections, avoidant/numbing symptoms, and hyper-arousal symptoms. A fifth criterion concerns duration of symptoms and a sixth assesses functioning.

Criterion A: stressor

The person has been exposed to a traumatic event in which both of the following have been present:

- The person has experienced, witnessed, or been confronted with an event or events that involve actual or threatened death or serious injury, or a threat to the physical integrity of oneself or others.

- The person's response involved intense fear, helplessness, or horror. It should be noted that in children, it may be expressed by disorganized or agitated behavior.

Criterion B: intrusive recollection

The traumatic event is persistently re-experienced in at least one of the following ways:

- Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions. In young children, repetitive play may occur during which themes or aspects of the trauma are expressed.
- Recurrent distressing dreams of the event. In children, there may be frightening dreams without recognizable content
- Acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur upon awakening or when intoxicated). In children, trauma-specific reenactment may occur.
- Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event
- Physiologic reactivity upon exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event

Criterion C: avoidant/numbing

Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by at least three of the following:

- Efforts to avoid thoughts, feelings, or conversations associated with the trauma
- Efforts to avoid activities, places, or people that arouse recollections of the trauma
- Inability to recall an important aspect of the trauma
- Markedly diminished interest or participation in significant activities
- Feelings of detachment or estrangement from others
- Restricted range of affect (e.g., unable to have loving feelings)
- Sense of foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span)

Criterion D: hyper-arousal

Persistent symptoms of increasing arousal (not present before the trauma), indicated by at least two of the following:

- Difficulty falling or staying asleep
- Irritability or outbursts of anger
- Difficulty concentrating

- Hyper-vigilance
- Exaggerated startle response
- Criterion E: duration
- Duration of the disturbance (symptoms in B, C, and D) is more than one month.

Criterion F: functional significance

The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning. Specify if:

- Acute: if duration of symptoms is less than three months
- Chronic: if duration of symptoms is three months or more

Specify if:

- With or without delayed onset: Onset of symptoms at least six months after the stressor

Reference:

American Psychiatric Association. 2000. *Diagnostic and Statistical Manual of Mental Disorders* (Revised 4th ed.). Washington, DC: American Psychiatric Association.

IDA | Casualty Rates: UK Service members in Iraq Reportedly Experienced One-fourth the PTSD Incidence of U.S. Troops

- When assessed at least one year after returning from Iraq and neighboring areas, 4% of UK service members met criteria for PTSD, compared to 17% of U.S. Army soldiers.
- 2010 study in *The Lancet*, funded by the UK Ministry of Defence, estimated a PTSD rate for deployed British soldiers at only 4%, but 20% had symptoms of common mental disorders and 13% alcohol misuse.
  - Deployment to Iraq or Afghan "was significantly associated with alcohol misuse for regulars and with probable post-traumatic stress disorder for reservists."
- Less exposure to combat may explain much of the lower prevalence rate of PTSD found in the study of UK service members.
  - In Iraq, units assigned to give maximum combat casualty/violence risk to U.S. Marines and active duty U.S. Army units—not foreign nationals or U.S. Reserve Components (with exception of US Marine Reserves which are integrated with Marine Active Component combat units)
  - Most British forces in Iraq at Basra, an overwhelmingly Shia area of Iraq with much less combat/casualties/improvised explosive devices (IED)
  - Areas like Anbar (high Sunni population, highest violence/IED levels) assigned to Marines and active U.S. Army units
- Expect to receive copy of major UK study of Iraq/Afghan PTSD rates soon
- Other explanations:
  - PTSD more acceptable in UK, masked by drinking
  - Better "Frontline Treatment" that may reduce PTSD cases

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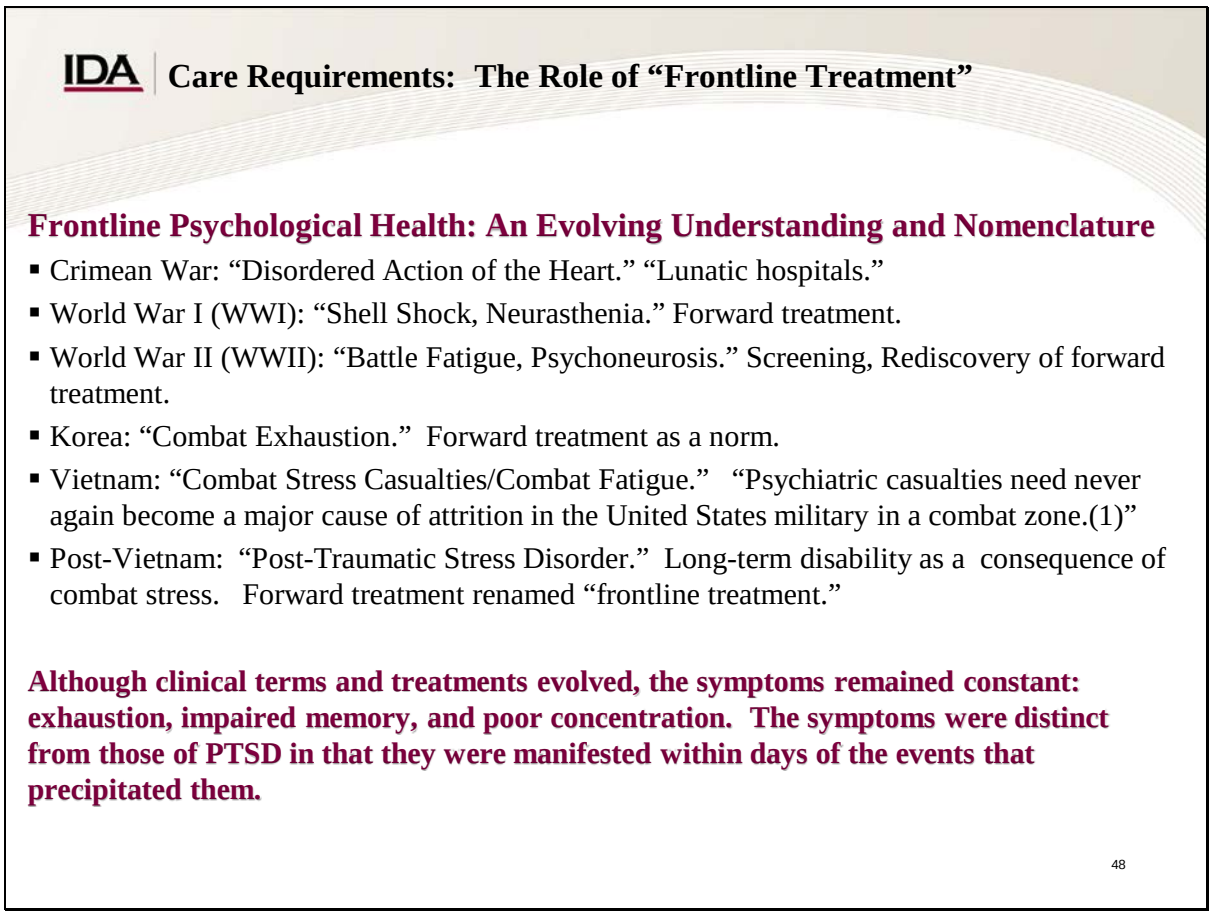
Sources: Adamson et al., 2008; Fear et al. 2010; Ramchand et al. 2010.

Slide 47. Casualty Rates: UK Service Members in Iraq



Sources: Jones and Wessely 2005, 238; Bourne 1970, 487.

Slide 48. Care Requirements: The Role of "Frontline Treatment"

The terms—"Disordered Action of the Heart," "Combat Exhaustion," and the like—are intended to capture the way PH problems have been understood and treated during the last 140 years.

IDA | Historical Costs: In World War II, More Soldiers Were Separated from Army for Psychological Disability than Died in Battle

	Admissions	Disability	Separations
Psychoneurosis	648,460	246,712	38%
Other	280,847	65,642	23%
Total	929,307	312,354	34%
Battle Injuries	599,724	140,657	23%

- Large number of PH separations occurred, in part, as a matter of policy.
  - Army considered burdens of retention and treatment not worth their reward in returns-to-duty, routinely discharged those diagnosed with psychoneurosis.
- Later, alarmed by losses, Army instituted screening program to prevent the induction of those identified as prone to psychoneurosis.
  - Program was abandoned because it excluded so many that the Army could not fill its ranks.

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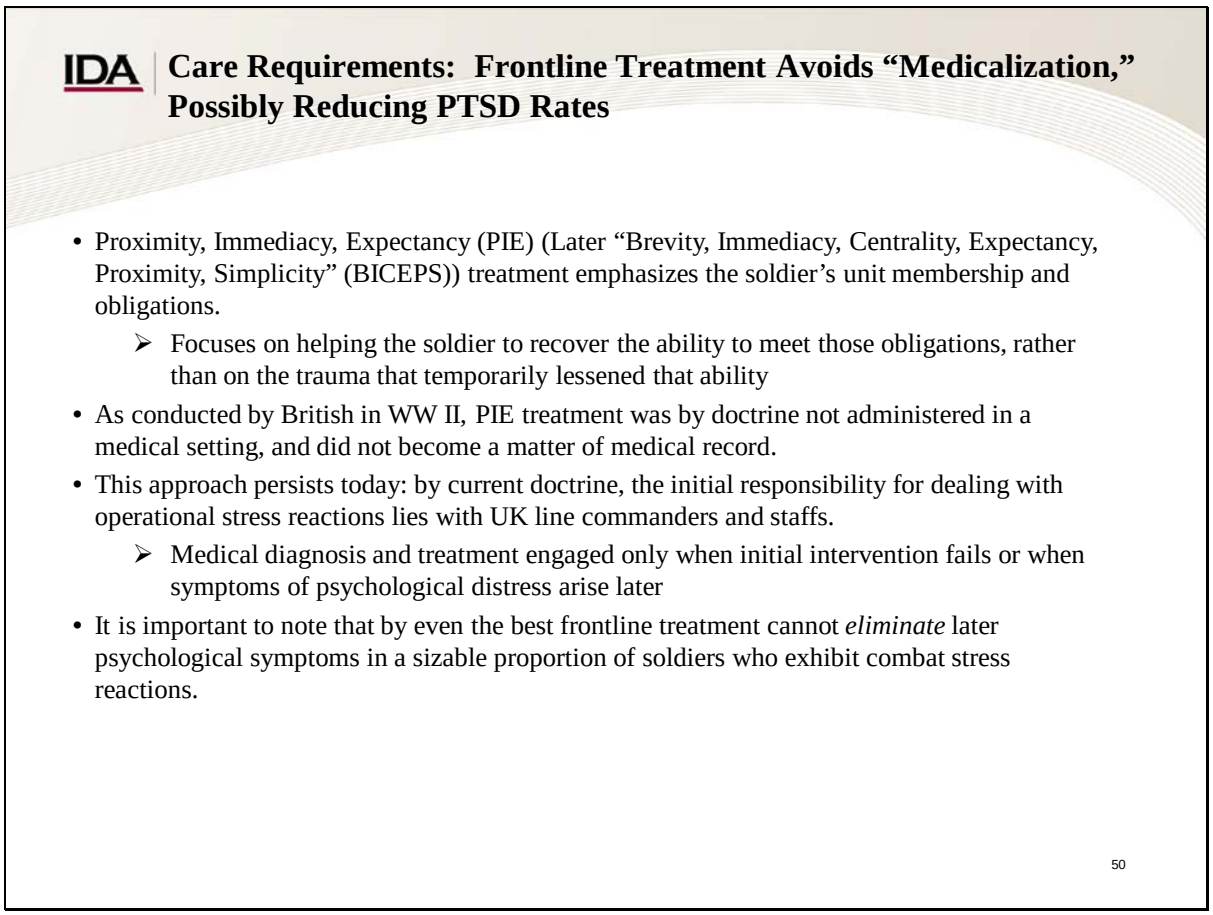
Note: "Psychoneurosis" comprises a number of current diagnoses, including PTSD and depression.

Slide 49. Historical Costs

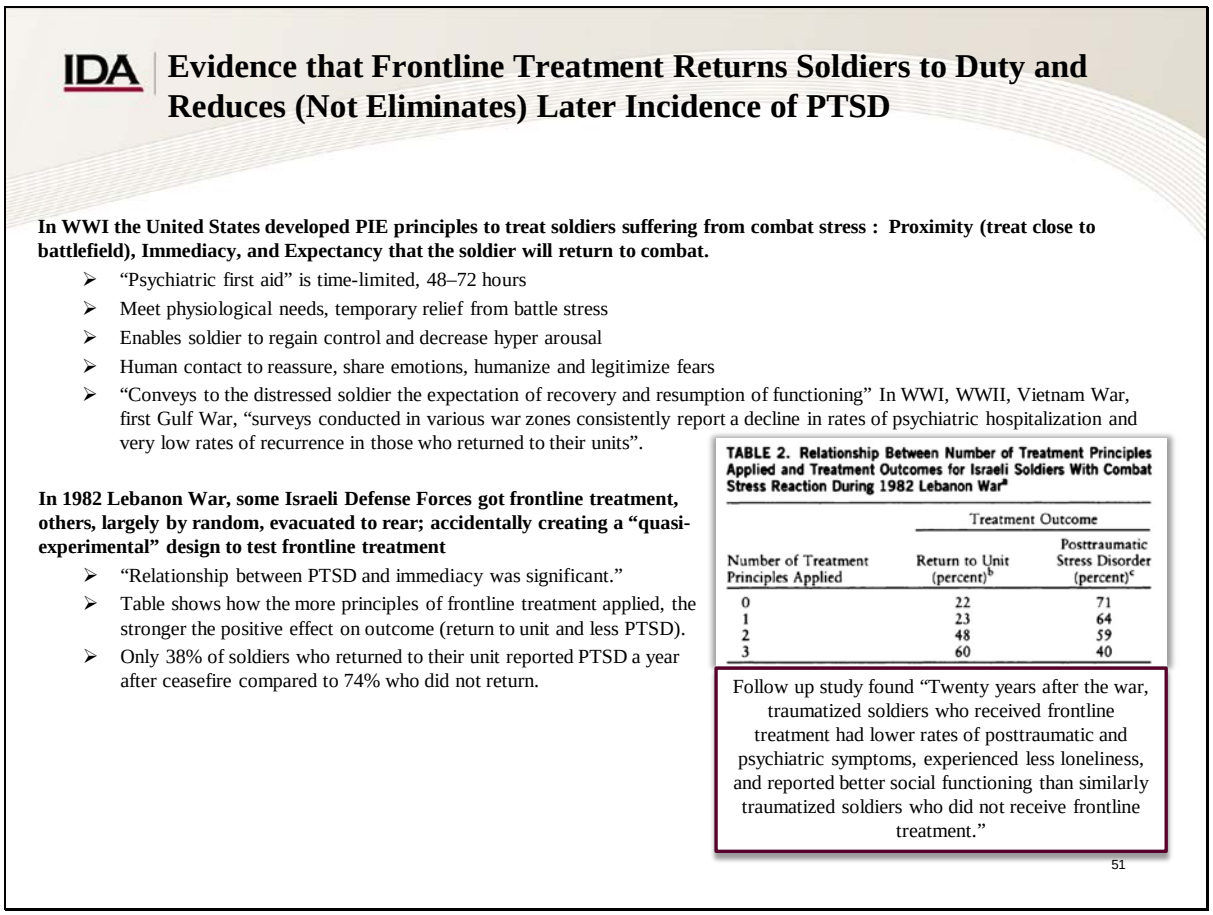
Battle deaths during World War II numbered 229,823.



Slide 50. Care Requirements: Frontline Treatment Avoids "Medicalization"

Proximity, Immediacy, Expectancy (PIE) is defined as a non-medical intervention close to the front and immediately on the exhibition of symptoms of disorientation, emphasizing the expectancy of rapid return to duty after a brief period of rest and recovery.

The term BICEPS which stands for brevity, immediacy, centrality, expectancy, proximity and simplicity is a memory aid used for the management of combat and operational stress reaction: brevity—usually less than 72 hours; immediacy—as soon as symptoms are evident; centrality—chain of command remains directly involved in the soldier's recovery and return to duty; expectancy—casualties will recover; proximity—treatment at or as near the front as possible; simplicity—use of simple measures, such as rest, food, hygiene, and reassurance.



Sources: Zahava and Benbenishty 1986; Zahava, Shklar, and Mikulincer 2005; Cozza 2005.

Slide 51. Evidence that Frontline Treatment Returns Soldiers to Duty

The purpose of the study by Zahava, Shklar and Mikulincer was to compare the long-term (20-year) effectiveness of treatment provided to combat stress reaction casualties of the 1982 Lebanon War who received frontline treatment (N=79), casualties who did not receive frontline treatment (N=156), and matched soldiers who did not experience combat stress reaction (N=194). Subjects were asked which of the frontline treatment principles (proximity, immediacy, expectancy) were applied in their treatment, whether or not they returned to their unit after frontline treatment, and if so, whether they returned before or after they felt completely recovered. Outcome assessments included measures of post-traumatic and psychiatric symptoms and of social functioning.

According to the study, "The development of PTSD is often an evolving process and extends over time through a series of stages ranging from relatively contained distress to severe disability." (Zahava, Shklar, and Mikulincer 2005, 2309). The authors also contend that

> In its chronic phase, PTSD may be likened to cancer; it metastasizes and is associated with higher rates of psychiatric and somatic co-morbidities, substance abuse, impaired functioning, and higher mortality risk. As the disease evolves over time, pathological changes and debilitating co-morbidity may become fixed

> and irreversible. Therefore, the aim in addressing the disorder is to push back the intervention to emphasize preventive rather than curative medicine. (2309)

Zahava, Shklar, and Mikulincer asserted that "study findings demonstrate the effectiveness of frontline treatment for combat stress reaction even 20 years after combat." (2310) They ultimately concluded that their "findings support the view that the acute phase of traumatization is a critical period and that early intervention should occur during this window of opportunity to prevent the crystallization of combat stress reaction into entrenched PTSD." (2314)

DOD has been placing teams of mental health professionals in forward operating bases (FOBs) to serve as mental health resources for leaders and service members while they are deployed in the field. These combat and operational stress control (COSC) programs are designed to reach service members and leaders early and directly in the field.

According to LTC Hans Ritschard. Director of DOD Psychological Health Strategic Operations (PHSO) for the Office of Force Health Protection & Readiness and Force Health Protection & Readiness Programs:

> We often recommended rest, helped soldiers to reflect or think through a difficult experience, or urged connections and interactions with others in the unit… We recommend sending someone back if a more severe mental health concern arises. But most soldiers will experience only mild and temporary stress symptoms, which they adapt to and overcome or quickly resolve with the help of prompt low-level intervention. A small number may struggle with more severe and lasting distress or functional impairment that if left unresolved could eventually lead to PTSD, although early professional intervention will improve the likelihood of returning to full functioning and readiness even in those cases.

As of 2010, DOD PHSO is in the process of updating and coordinating a new DOD-wide policy for COSC programs.

Care Requirements: DOD/Army Made a Major Effort after Vietnam to Provide Better Frontline Treatment of Battlefield PH Casualties and Improve Field Data Collection…

- Battlefield psychological casualties threatened unit effectiveness in both World Wars, and imposed lasting human and financial costs following them.
- Effective measures were developed to return most psychological casualties promptly to their units, and by the time of the Vietnam War the conviction was widespread that the problems were no longer significant.
- Aftermath of Vietnam destroyed that conviction and reaffirmed the verdict of Beebe and DeBakey that the systems for gathering and analyzing wartime medical data were inadequate.

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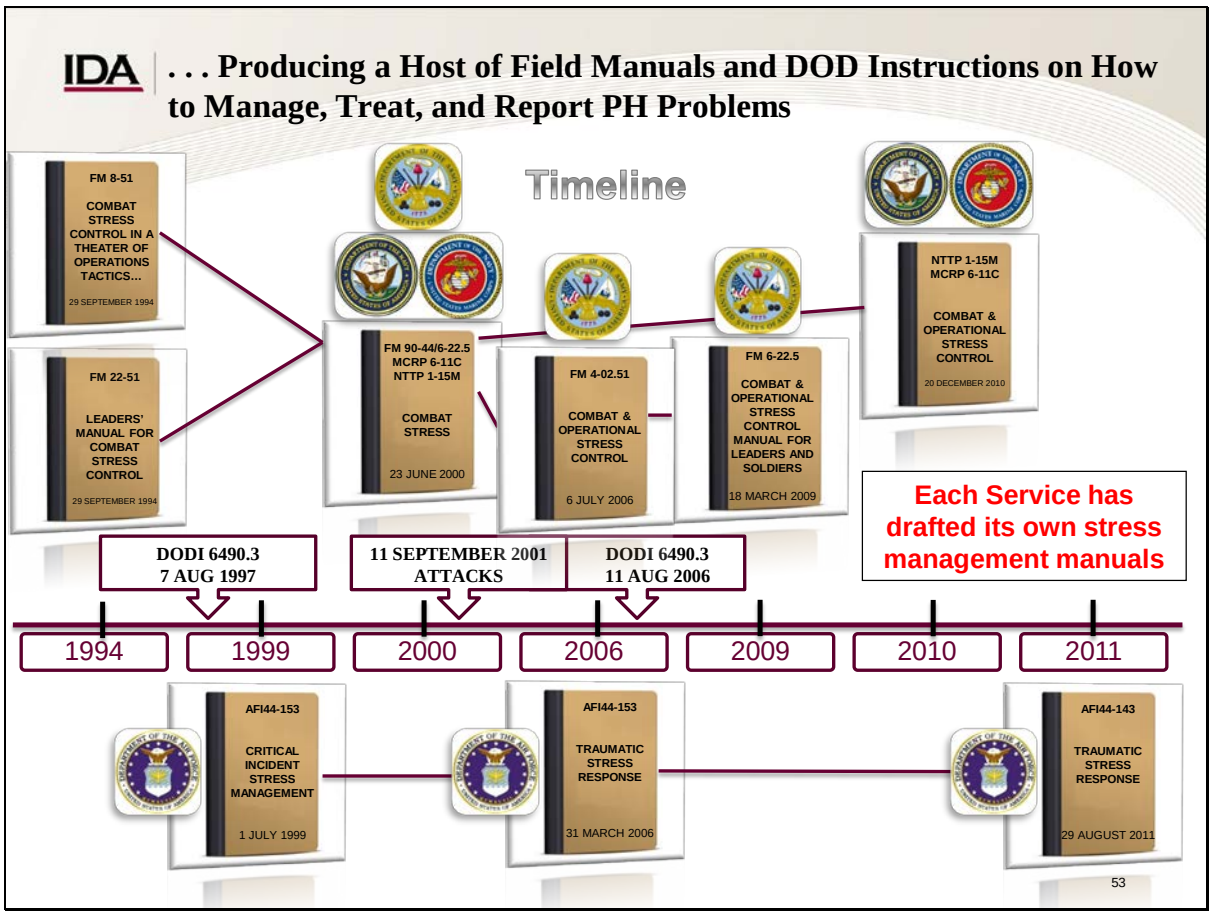
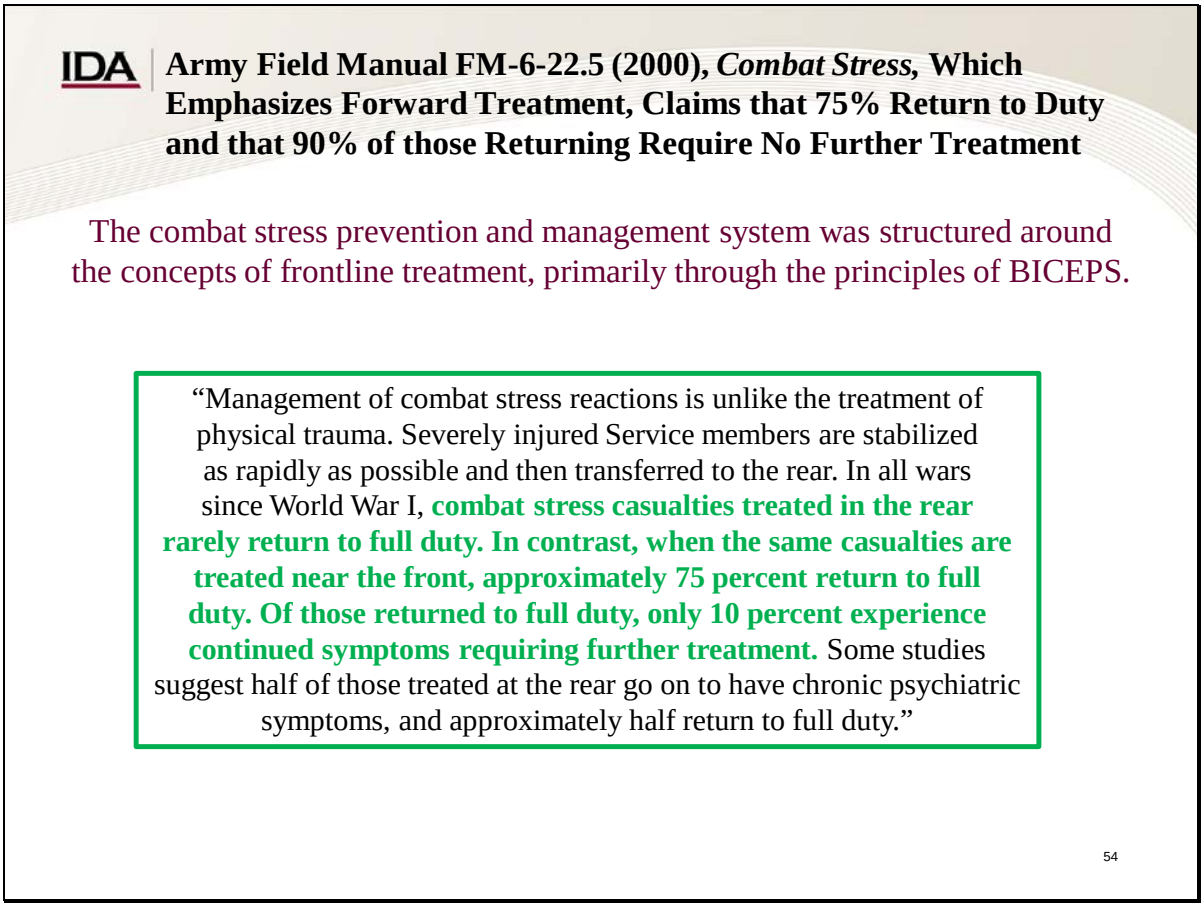
Slide 52. Care Requirements



Slide 53. Producing a Host of Field Manuals and DOD Instructions

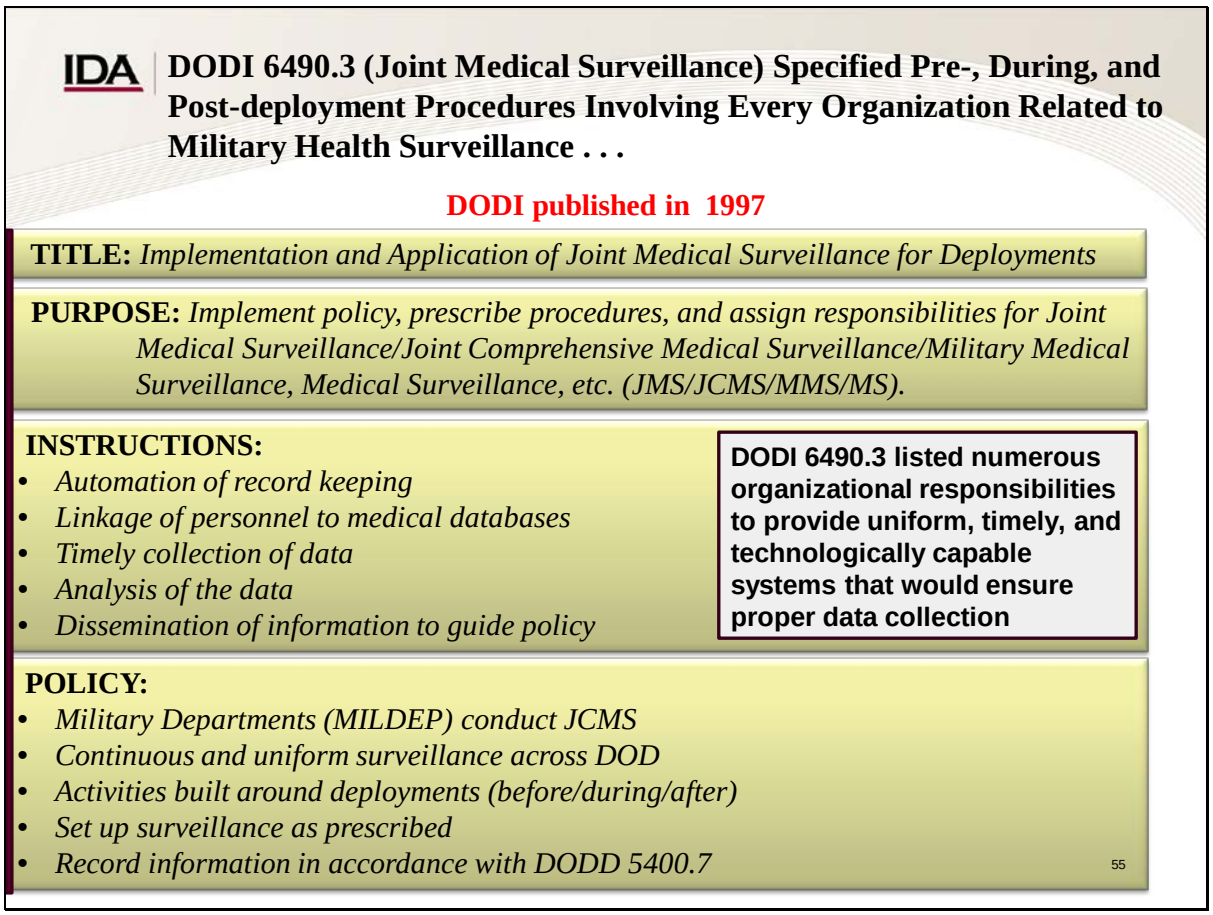
The timeline in Slide 52 illustrates most of the field manual (FM) updates and the Department of Defense Instructions (DODI) milestones. The Air Force has remained mostly linear without any joint field manual publications and does not appear to be affected by DODIs. The Army, Navy, and Marine Corps joined to create a single document titled *Combat Stress* that was followed for most of the Global War on Terrorism (GWOT), and *was not* superseded until 2009. In addition to *Combat Stress*, the Department of the Army, published another FM on the same subject three years after the Iraq invasion and months before the next revision to DODI 6490.3. Today there are three separate publications for each Military Department, each separated by one year, and each using different terminology, metrics, and Service-specific procedures.



Source: Department of the Army 2000, 51.

Slide 54. Army Field Manual FM 6-22.5, *Combat Stress*

The Service FMs are the ground troop guides for addressing PH at the individual soldier level. They are tied to DODIs and designate general and specific responsibilities of unit leaders and associated resources. Data collection and the medical surveillance infrastructure are built into these FMs, but loosely and rarely called out.



Slide 55. DODI 6490.3, *Joint Medical Surveillance*

The breakdown in Slide 55 explains the basics of the DODI 6490.3.

IDA . . . DODI 6490.3 Assigned Organizations Tasks to Build a Strong PH Data Collection Infrastructure . . .

Assistant Secretary of Defense for Health Affairs (ASD(HA))

- Field systems to capture and centralize data
  - Personnel identifiers, Health profiles/status, Diagnoses, Combat/stress briefings, Immunization/prophylaxis, Disposition, Disability
- Set up exposure data systems
  - Geographical, Environmental, Occupational
- Chapter A "Joint Preventative Medicine Policy Group (JPMPG) for policy development, evaluations and future recommendations

DMDC

- Provide collective data for any deployed force
  - Daily strength by unit and total
  - Grid coordinate locations for company-size units and larger
  - Inclusive service member deployment dates
  - Linkable data
    - Data will be linkable to collective medical surveillance (MS) data and individual service member medical records

Surgeons General (Commander in Chief/ Joint Task Force (CINC/JTF))

- Support "Unique" MS activities

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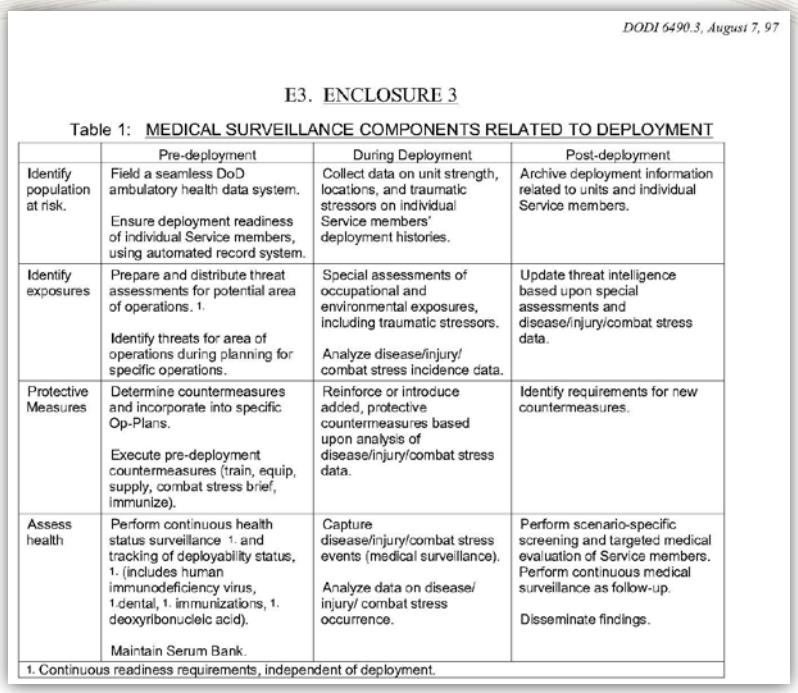
Slide 56. DODI 6490.3 Assigned Organizations to Build PH Data Collection Infrastructure

IDA

DODI 6490.3 (1997) Specifies Data Required for MS

The architecture for MS was built around deployments and included numerous data components. It relied heavily upon the Services to incorporate those components into a collection and reporting framework. The components have increased since this version, and the latest DODI specifies particular elements for each Service to report.



DODI 6490.3, August 7, 97

E3. ENCLOSURE 3

Table 1: MEDICAL SURVEILLANCE COMPONENTS RELATED TO DEPLOYMENT

	Pre-deployment	During Deployment	Post-deployment
Identify population at risk.	Field a seamless DoD ambulatory health data system. Ensure deployment readiness of individual Service members, using automated record system.	Collect data on unit strength, locations, and traumatic stressors on individual Service members' deployment histories.	Archive deployment information related to units and individual Service members.
Identify exposures	Prepare and distribute threat assessments for potential area of operations. 1. Identify threats for area of operations during planning for specific operations.	Special assessments of occupational and environmental exposures, including traumatic stressors. Analyze disease/injury/ combat stress incidence data.	Update threat intelligence based upon special assessments and disease/injury/combat stress data.
Protective Measures	Determine countermeasures and incorporate into specific Op-Plans. Execute pre-deployment countermeasures (train, equip, supply, combat stress brief, immunize).	Reinforce or introduce added, protective countermeasures based upon analysis of disease/injury/combat stress data.	Identify requirements for new countermeasures.
Assess health	Perform continuous health status surveillance 1. and tracking of deployability status, 1. (includes human immunodeficiency virus, 1.dental, 1. immunizations, 1. deoxyribonucleic acid). Maintain Serum Bank.	Capture disease/injury/combat stress events (medical surveillance). Analyze data on disease/ injury/ combat stress occurrence.	Perform scenario-specific screening and targeted medical evaluation of Service members. Perform continuous medical surveillance as follow-up. Disseminate findings.

1. Continuous readiness requirements, independent of deployment.

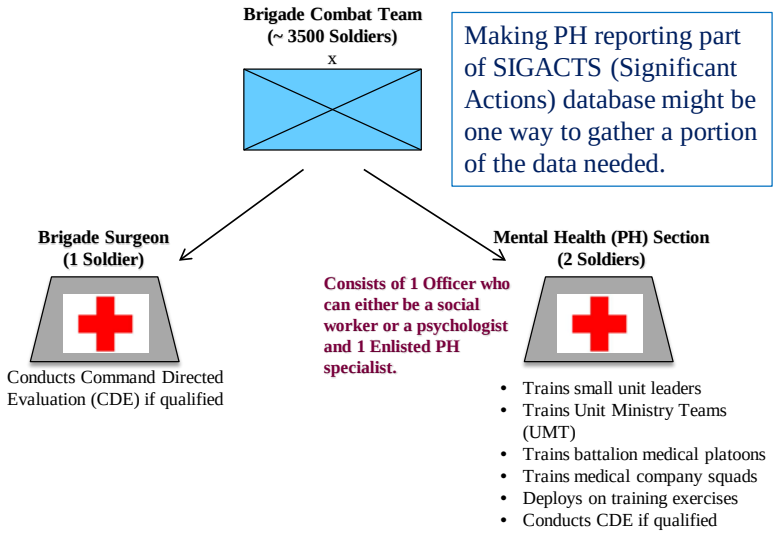
57

Note: Enclosure 3 to DODI 6490.3 (7 Aug. 1997).

Slide 57. DODI 6490.3, Enclosure 3 Specifes Data for Medical Surveillance

IDA | . . . But Despite a Well-defined System, Field Data Were Not Collected

- **If the line command has no medical surveillance reporting requirements, the work is left to the 2 PH specialists/battalion.**
- **Two soldiers with heavy workload cannot handle database reporting requirements for 3500 soldiers deployed in theater**



- Although extensive upper echelon responsibility was articulated, data reporting pathways and responsibilities at the lower unit levels were unclear.
- Collecting field data and feeding the data systems was not a focus.

58

Note: Ibid.

Slide 58. Despite a Well-defined System, Data Were Not Collected

After a Decade, DHP Has Failed to Catch Up to PH/PTSD Treatment Demands

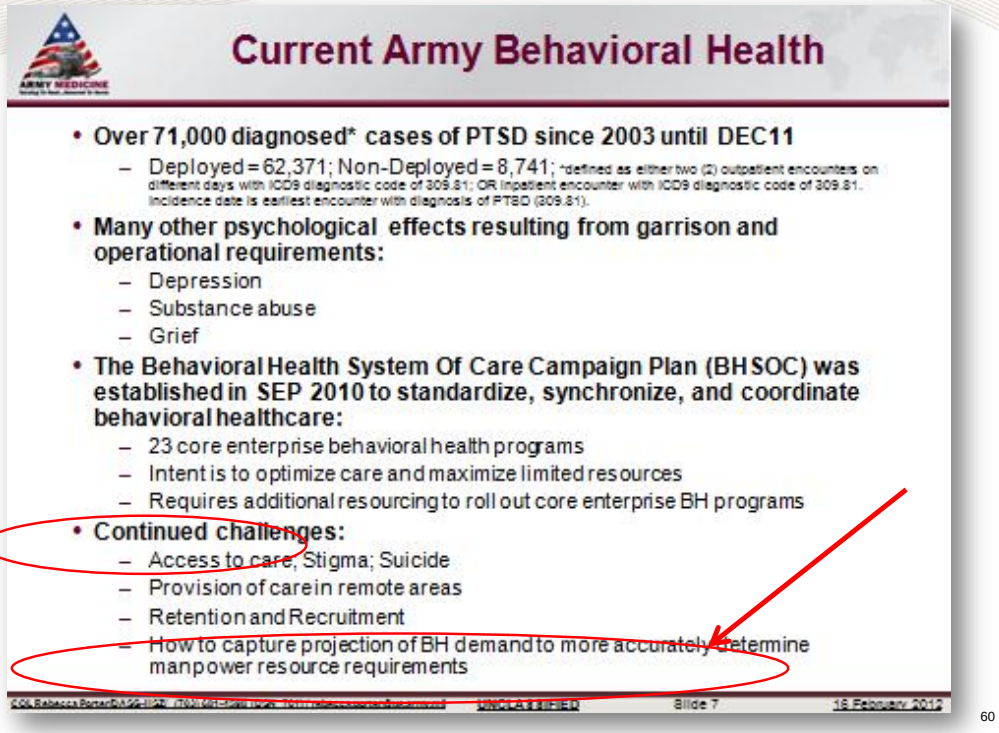
- DHP suffered from inadequate number of PH providers
- Army not able to meet all PH demand for active duty beneficiaries
- 2010 Institute of Medicine report identified a "critical shortage of health care professionals—especially those specializing in mental health—to meet the demands of those returning from theater in Iraq and Afghanistan to their family members."
- As of late 2010, Army meeting access to care standards for active duty beneficiaries about 81% of time
  - Urgent care access met at 98% rate within 24 hours
- Army able to hire or retain only 79% of all funded PH personnel in FY11

59

Sources: Matson 2011; U.S. Army 2010; MIT 2011.

Slide 59. After a Decade, DHP Has Failed to Catch Up

IDA | February 2012 Army Briefing Acknowledges Inadequate Projection of PH Service Demand to Forecast PH Manpower Needs



Current Army Behavioral Health

- **Over 71,000 diagnosed* cases of PTSD since 2003 until DEC11**
  - Deployed = 62,371; Non-Deployed = 8,741; *defined as either two (2) outpatient encounters on different days with ICD9 diagnostic code of 309.81; OR inpatient encounter with ICD9 diagnostic code of 309.81. Incidence date is earliest encounter with diagnosis of PTSD (309.81).
- **Many other psychological effects resulting from garrison and operational requirements:**
  - Depression
  - Substance abuse
  - Grief
- **The Behavioral Health System Of Care Campaign Plan (BHSOC) was established in SEP 2010 to standardize, synchronize, and coordinate behavioral healthcare:**
  - 23 core enterprise behavioral health programs
  - Intent is to optimize care and maximize limited resources
  - Requires additional resourcing to roll out core enterprise BH programs
- **Continued challenges:**
  - Access to care; Stigma; Suicide
  - Provision of care in remote areas
  - Retention and Recruitment
  - How to capture projection of BH demand to more accurately determine manpower resource requirements

COL Rebecca Porter/DASG-HCP/ [redacted] UNCLASSIFIED Slide 7 16 February 2012

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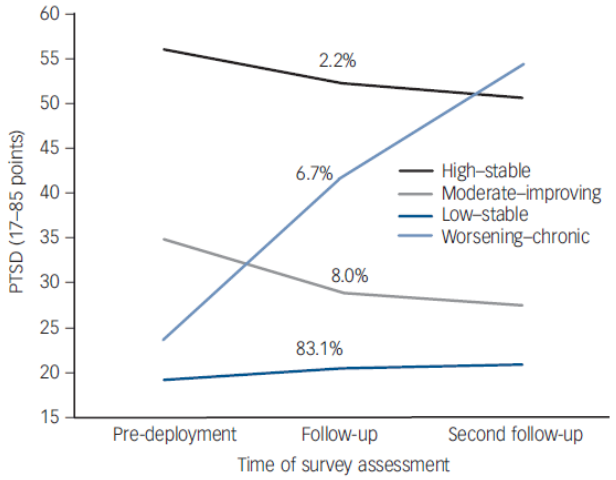
Slide 60. February 2012 Army Briefing Acknowledges Inadequate Projection

IDA | 35% of PTSD Cases Become Severe, Chronic

- Latest DOD estimate is that 83% of deployed troops never get PTSD.
- 8% have moderate PTSD, improving over time.
- 2% have severe PTSD, with little improvement
- 7% develop PTSD later, with PTSD score worsening over time to highest rate.
- 30–40% of PTSD cases become chronic.
- PTSD is not co-morbid only with depression: often patients have serious physical injuries, TBI as well.

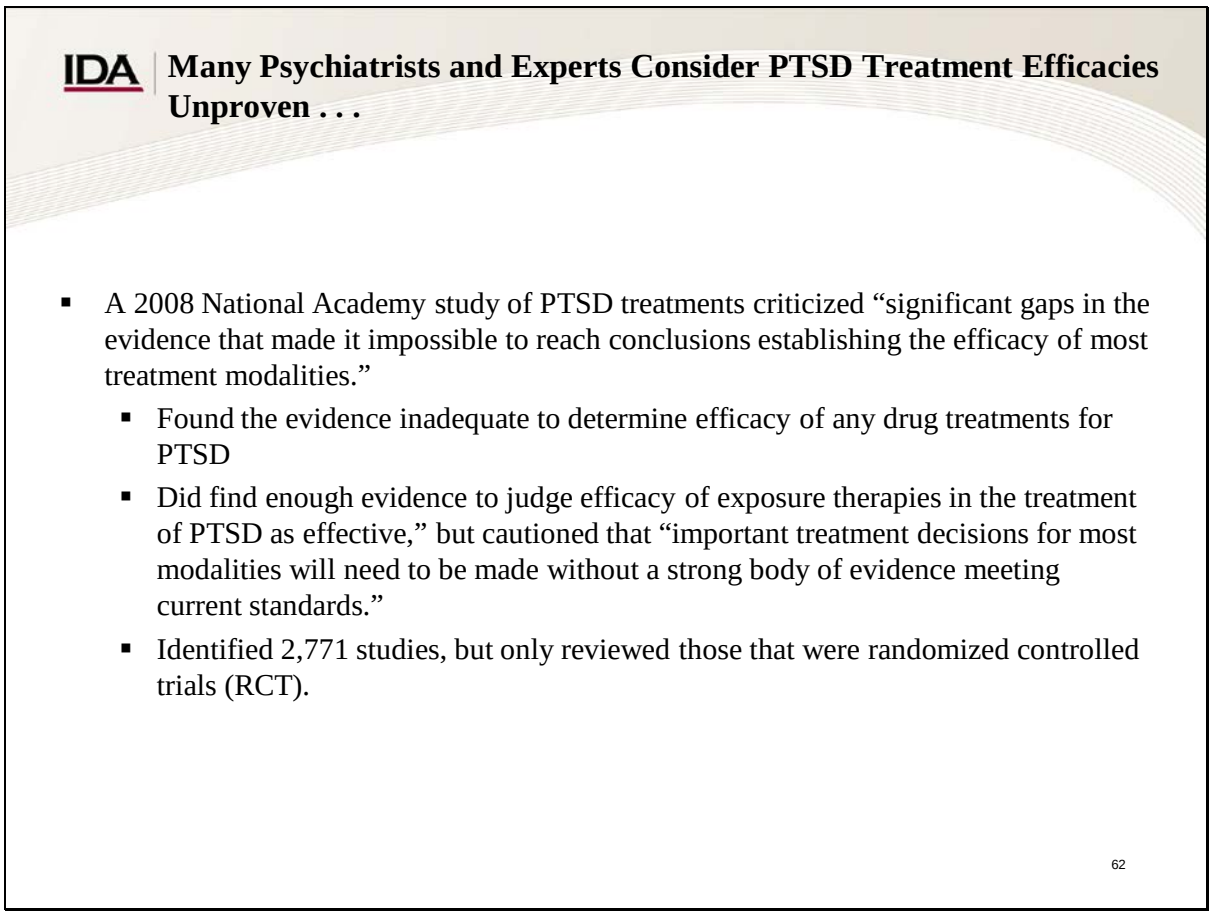


Source: Millennium Cohort study, Dr. Miguel Roberts, Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury, "Psychological Diagnoses Related to Traumatic Exposures and Deployment," Tricare Management Activity, Strategic Planning Workshop, "Longitudinal Study of Medical Requirements for Wounded, Ill, or Injured Service Members," March 15, 2012.

61

Sources: Roberts and Schnurr 2012; French 2012.

Slide 61. 35% of PTSD Cases Become Severe, Chronic



Source: National Research Council 2008.

Slide 62. Many Psychiatrists and Experts Consider PTSD Efficacies Unproven

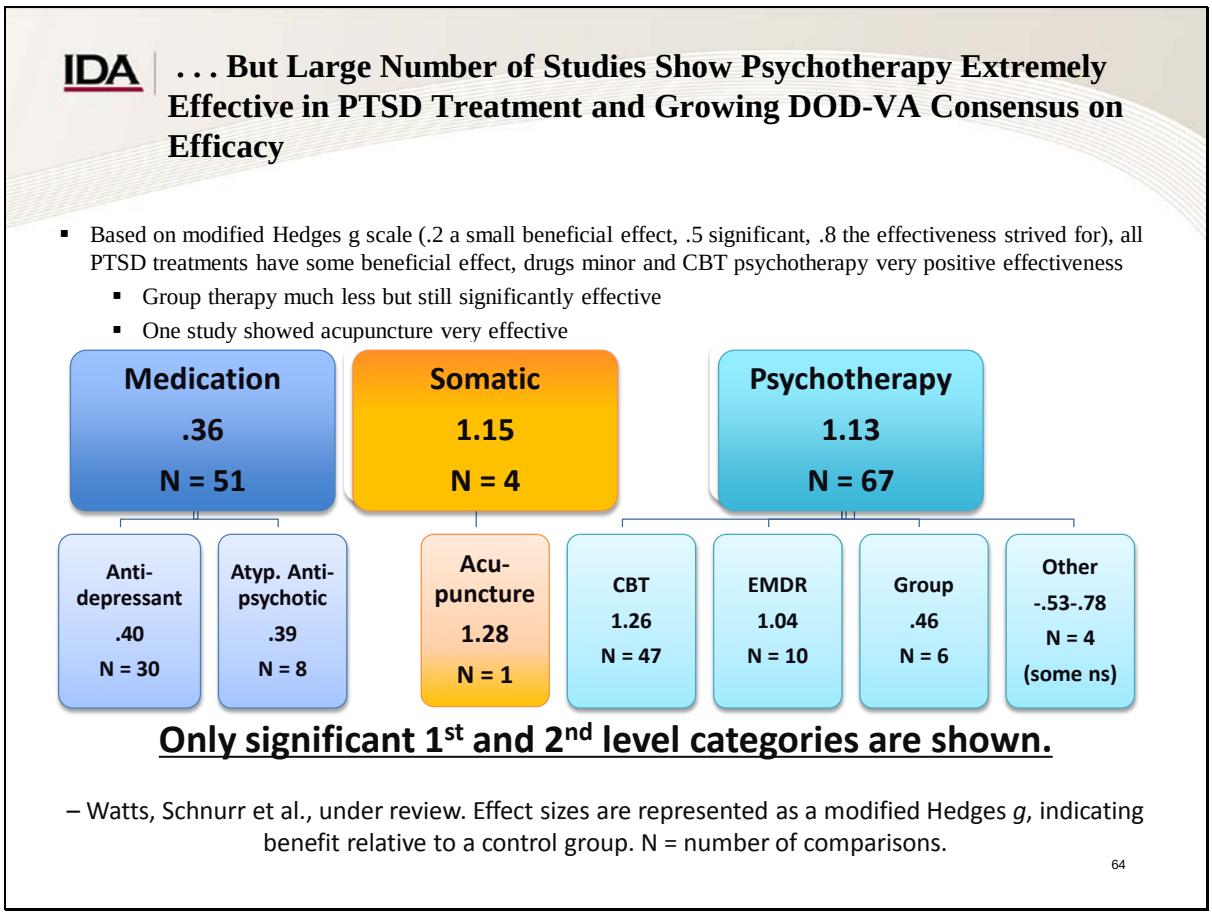
IDA | . . . But Others Insist that Lack of Randomized Trial Data Does Not Preclude Identifying Effective Treatments

- A 2008 *PTSD Research Quarterly* article, published at the time of the National Academy study, explained the basic problem of randomized studies: "Unlike medication trials, studies of psychotherapy (and other nonpharmacological interventions) typically cannot utilize a placebo controlled design, widely considered to be the gold standard for evaluating an intervention."
- Another major reason that PTSD treatment studies may fail to generate significant results is that differences between treatments are likely to be small, a very large sample size is needed for statistical power—hard to get with PTSD populations.
- VA psychologists writing in 2008 concluded that "it is clear that CBT (cognitive behavioral treatments) has consistently proven more effective than pharmacotherapy."
- 1982 Israel Lebanon War study on frontline treatment was an accidental, but near quasi-experimental design that this Committee would have ruled out, though several academic journal articles on that study have concluded it is very relevant, good information on PTSD avoidance.
- National Academy report repeatedly calling for funding more research may have been biased in rejecting non-RCT studies.
- Other 2008 reports disagree with the National Academy finding of little evidence of PTSD treatment effectiveness. Psychologist Terence M. Keane, director of the behavioral science division of the National Center for Posttraumatic Stress Disorder rates several PTSD treatments as highly effective based on their high degree of empirical support.

63

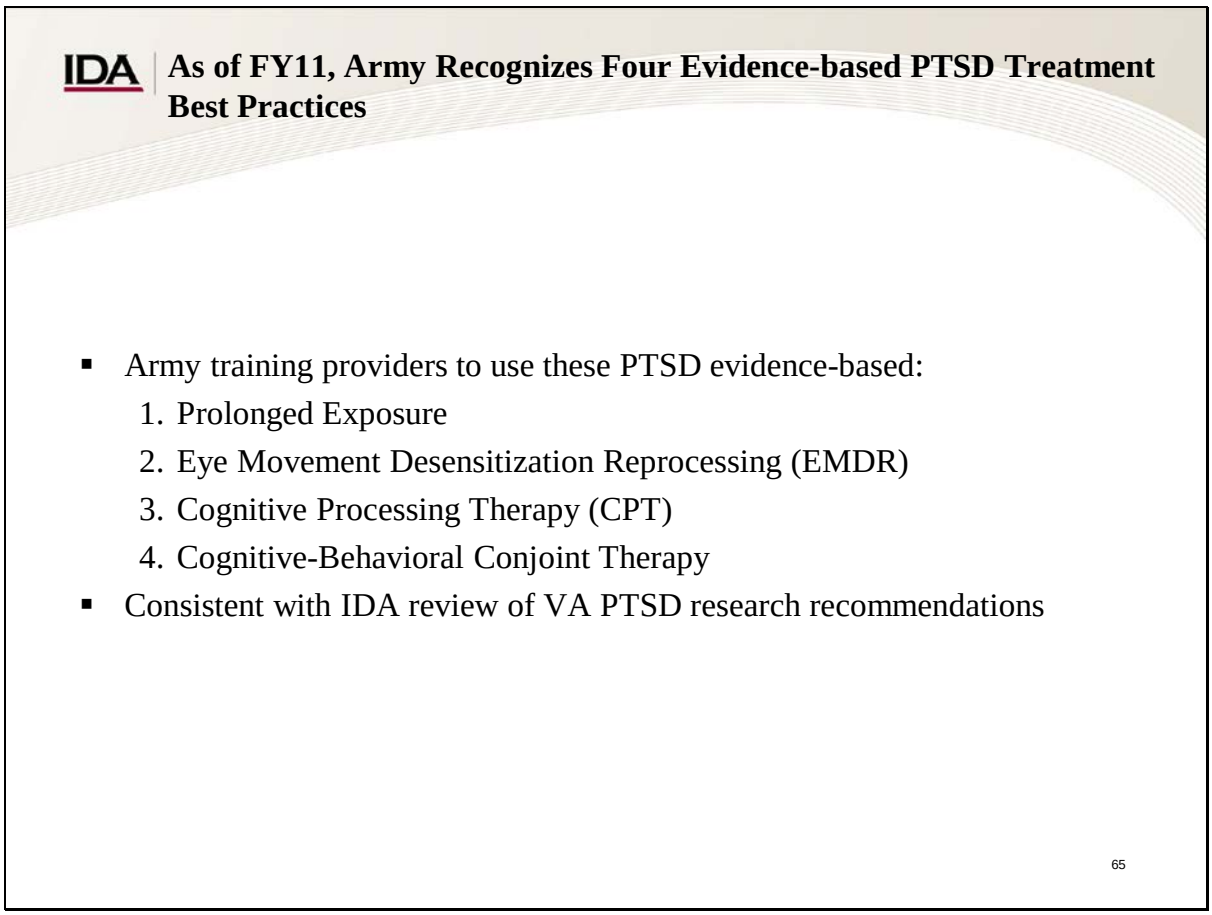
Sources: National Research Council 2008, 12–13; Zahava 1986; Schnurr and Freidman 2008; DeAngelis 2008; Gulliver and Steffen 2010.

Slide 63. Randomized Trial Data Does Not Preclude Identifying Effective Treatments



Source: Roberts and Schnurr 2012.

Slide 64. Large Number of Studies Show Psychotherapy is Extremely Effective



Source: U.S. Army 2010.

Slide 65. As of FY11, Army Recognizes Four PTSD Best Practices

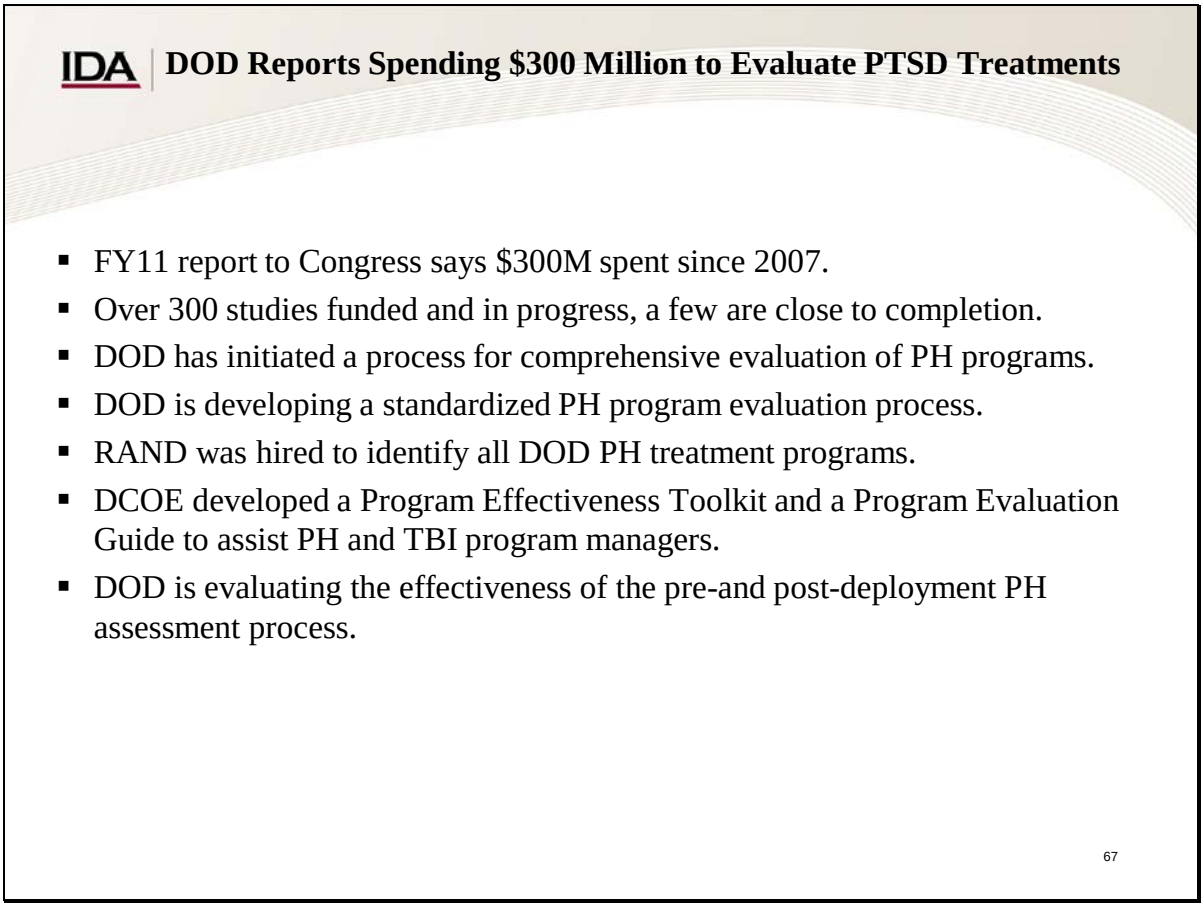
Navy Defines PTSD Treatment Success as Receiving a Selective Serotonin Reuptake Inhibitor (SSRI) and Having a Follow-up Visit—a Process Metric, Not Patient Outcome

- **Success defined as high quality and evidence-based healthcare for warriors and their families**
- **Key Initiatives:**
  - – Supported the establishment of the Naval Center for Combat and Operational Stress Control (NCCOSC)
  - – Developed and tailored course curriculum for Navy primary care residents to expand knowledge of mental health services including alternative therapies such as acupuncture
  - – Developed web-based training for CPT and CBT to improve clinicians' ability to understand, treat, and address the PH needs of service members
- **Measures of Success:**
  - – 88% of all Navy cases of PTSD who received an SSRI in FY10 had a follow-up visit with their medical provider within 30 days—indicating compliance with VA/DOD clinical practice guidelines for the treatment of PTSD.

Source: "Recovering Warrior Task Force", CAPT Sara Kass, Deputy Chief, Wounded Ill and Injured, U.S. Navy, PowerPoint briefing, April 4, 2011.

66

Slide 66. Navy Defines PTSD Treatment Success



Source: DOD Report to Congress FY2011.

Slide 67. DOD Reports Spending $300M to Evaluate PTSD

IDA

Many New DOD PTSD and TBI Programs Funded, 211 as of 2011

- There are so many DOD MHS PH programs that the ASD (HA) asked RAND to develop a comprehensive catalog of existing programs sponsored or funded by DOD to address PH and TBI.
- RAND found at least 211 DOD PH programs.

Table 5.5
Number of Programs by Scale and Branch of Service

	Scale of Implementation				
Branch of Service	Primarily at One Installation	At More Than One Installation but Not Across an Entire Service	Across an Entire Service	Across Multiple Services or the Entire DoD	Not Implemented at Time of Interview
DoD-wide	21	11	1	23	1
Army	25	20	14	1	0
Army Reserve	9	4	9	1	0
Army National Guard	14	7	13	2	0
Air Force	10	8	7	2	0
Air Force Reserve	2	0	5	2	0
Air National Guard	6	2	12	3	0
Navy	6	10	9	3	0
Navy Reserve	2	3	9	1	0
Marine Corps	7	9	10	4	0
Marine Corps Reserve	0	2	10	2	0

68

Source: Weinick et al. 2011.

Slide 68. Many New DOD PTSD and TBI Programs Funded, 211 in 2011

IDA | . . . 36 Programs Focus on PTSD DOD-wide Plus PTSD Programs Specific to Service Components . . . .

Table 5.6
Number of Programs by Clinical Issues Addressed and Branch of Service

	Clinical Issues Addressed					
Branch of Service	Depression	PTSD	Substance Use	Suicide Prevention	Traumatic Brain Injury	General Psychological Health
DoD-wide	28	36	15	14	26	42
Army	30	39	17	30	14	40
Army Reserve	13	18	7	11	6	17
Army National Guard	18	22	13	16	10	24
Air Force	12	14	8	10	9	16
Air Force Reserve	5	5	2	3	3	8
Air National Guard	11	10	8	9	7	15
Navy	6	10	9	7	4	14
Navy Reserve	3	3	4	4	0	9
Marine Corps	8	13	9	7	5	16
Marine Corps Reserve	3	4	4	4	0	9

NOTE: Categories are not mutually exclusive, and therefore numbers of programs cannot be summed across either rows or columns. We identified a total of 211 programs. We exclude from this table two programs that themselves comprise more than one program included in this report and three additional programs run by the Coast Guard.

69

Source: Ibid.

Slide 69. 36 Programs Focus on PTSD DOD-wide

IDA | . . . But Services Insist Most Are Small, Local Programs, Much Fewer Major PH Programs

- Services say the RAND count included small, local initiatives that are not institutionally supported PH programs.
  - In FY11, U.S. Army says they funded "20 unique psychological health programs."
  - Versus 50+ Army PH programs per RAND study
  - BHSOC was established in September 2010 to standardize, synchronize, and coordinate behavioral healthcare:
  - 23 core enterprise behavioral health programs

70

Source: U.S. Army 2010; Porter 2012; IDA interviews.

Slide 70. Services Insist Most Are Small, Local Programs

RAND Cited Program Proliferation, Decentralized Information, Isolated and Unevaluated Programs as Major Barriers to Effective DOD PH Programs

- RAND identified four major barriers to maximizing the effectiveness of PH programs:
  1. Information is highly decentralized.
  2. Programs are developed in isolation from the existing care system.
  3. Programs face common barriers: inadequate funding, resources, or staff capacity; potential concerns about the stigma associated with receiving mental health services, and inability to have service members spend adequate amounts of time with the program staff and/or materials because of other obligations on the part of participants or providers.
  4. Evaluation is infrequent, often without adequate rigor and process.

"the proliferation of programs creates a high risk of a poor investment of DOD resources. Our report suggests that there is significant duplication of effort, both within and across branches of service. Without a centralized evidence base, we remain uncertain as a nation about which approaches work, which are ineffective, and which are—despite the best intent of their originators—potentially harmful to service members and their families. Given the financial investment that the nation is making in caring for service members with mental health problems and TBI, service members and their families deserve to know what these investments are buying. Strategic planning, centralized coordination, and the sharing of information across branches of service, combined with rigorous evaluation, are imperative for ensuring that these investments will result in better outcomes and will reduce the burden that service members and their families face."

71

Source: Weinick et al. 2011.

Slide 71. RAND Cited Program Proliferation

IDA | MIT: DHP IT System Does Not Support Good PH Data Collection . . .

A Recent MIT study of DOD PH system offered several conclusions:

- DHP system users cannot access service member patient data.
  - Software inadequate, current system unreliable (crashes often).
- No information pathway from off post to on post except for TRICARE prescription data.
- Recommended "combine existing disparate data sources to improve behavioral health care."
- The MIT study team also concluded that the "proliferation of assessments" (the Periodic Health Assessment, Post Deployment Health Assessment, and Post Deployment Reassessment, Army's Unit Risk Inventory, Army's Down-Range Assessment Tool) leads to both "policy confusion and operational disconnects in providing care to service members."
  - MIT did not call for a single assessment tool, but a consistent set of tri-service health risk assessments, with overlaps that are understood and systems in place to drive more effective care and meet needs of those conducting assessments
- Overall, MIT concluded that the current IT system is not designed to track PH performance.
  - As one provider noted, "the system was designed for primary care and traditional specialty care that has procedures, and now we are stuck with it."

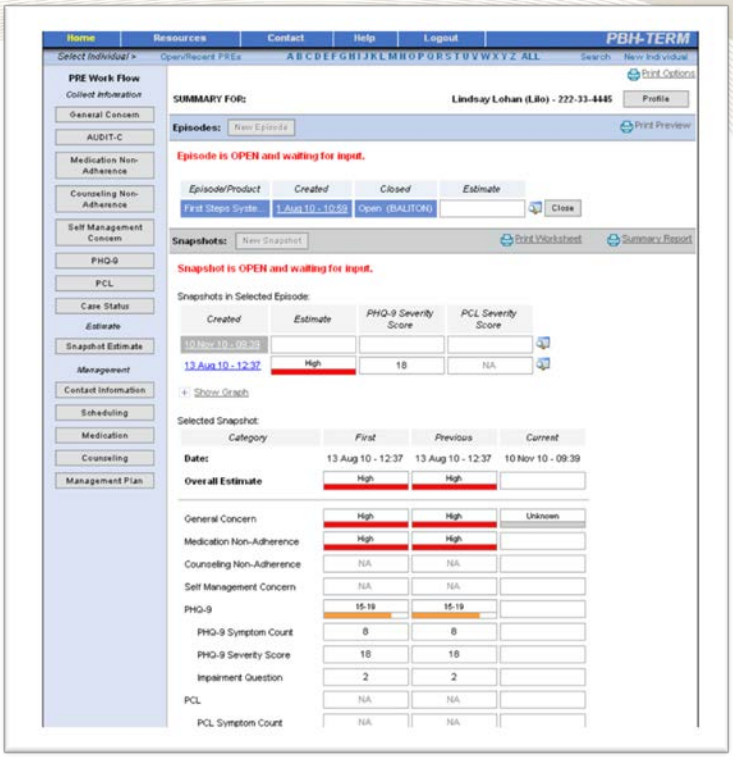
72

Sources: MIT 2011; MIT 2012.

Slide 72. MIT: DHP IT System Does Not Support Good PH Data Collection

IDA | . . But DHP Adding Better PH Data Collection Systems

- New DHP electronic record systems are enabling better data collection needed for improved outcome analysis.
- TMA and Defense Center of Excellence for PH & TBI (DCOE) have worked to build better PH information collection systems.
- Army's new automated Behavioral Health Data Platform will collect standardized clinical data throughout the behavioral health (BH) clinical care process.



73

Source: U.S. Army 2010.

Slide 73. DHP Adding Better PH Data Collection Systems

Past Lack of Requirements or Standards for Outcome Data Collection is Being Partially Addressed by Defense Center of Excellence for PH & TBI (DCOE) and Services . . .

- Until recently, there was no requirement or urgency to collect data on PH program treatment effectiveness.
- Several years ago integrated PH strategies were developed, but they did not require outcome measures.
- Some programs have outcome measures, others do not even have clearly specified outcomes to measure.
- Lack of standards and requirements for program outcome assessment that contributed to this lack of program efficacy measurement is being addressed now by the DCoE and many Services in some PH areas.
- DCOE not aware of who, if anyone, is working out outcome measurements for clinical programs.
- As of Feb 2012, there are still no standards for measuring outcome of PTSD or TBI treatment programs.
- There is now a MHS "Dashboard" tracking some outcomes across Military Services.
- Part of reason for lack of standards/outcome measures may be service independence in setting treatment standards and running their programs independently.

74

Source: Drew and Giese 2012.

Slide 74. Past Lack of Requirements or Standards Being Addressed by DCOE

IDA . . . .Defense Center of Excellence for PH & TBI Pursuing Several Efforts to Improve Outcome Assessments . . .

- TMA and Defense Center of Excellence for PH & TBI (DCOE) personnel IDA interviewed recognized shortcomings in their system, but are implementing improvements.
- DCOE is working four new initiatives to examine the effectiveness of programs.
  - Focused on non-clinical programs, largely in the areas of resilience and prevention
  - Clinical assessments not being addressed because they don't think they have resources to address all PH programs at once, more likely to achieve success with non-clinical programs
  - Using 2011 RAND study of non-clinical program effectiveness as a model
- DCOE is preparing outcome assessment plans now and will commence training and preparations to implement them later this year.
  - Non-clinical PH program assessment plans will be implemented FY13–17.
- DCOE is concerned that they not overreach or alienate Services with these assessments.

75

Source: Ibid.

Slide 75. DCOE for PH and TBI Pursuing Improved Outcome Assessments

IDA . . . Army Has Also Embraced Idea of Collecting Better Program Incidence and Outcome Data . . .

- U.S. Army Behavioral Health Division also recognizes shortcomings in their data collection and outcome assessment systems, working to improve.
- For outpatient PH care there is great variation in data collection systems, risk assessment tools, and outcome measures.
- Absence of enterprise-wide data collection system, requires "hand jamming" of reports by some local offices, resulting in inconsistencies, errors, and gaps in collection.
- "Behavioral Health System of Care" system is in development and maybe on line in a few months; it will start giving the Army the ability to track all soldier's care and collect better data for analysis and planning.
- Army report on NDAA08 Section 1634b compliance:
  - "Army Behavioral Health System of Care is intended to provide efficient and **evidence-based** BH practices…"
  - "Focus on training and education of recognized best practice based on published clinical practice guidelines and standardization of assessment tools. . . ."
  - "Promote the use of consistent and effective assessment practices along with systematic review of systems and events that further inform the utilization of effective interventions and best practices…."
  - "Public Health Assessment Program is an independent evaluation service which systematically collects information about programs targeting psychological risk and resilience factors to assist stakeholders to improve design, examine strengths and weaknesses, measure effective and impact, and make decisions about future program planning."
- In FY11, Army conducted six major BH field studies with extensive surveys, focus groups, analysis of data.

76

Sources: Brusher 2012; U.S. Army 2010.

Slide 76. Army Has Also Embraced Idea of Collecting Better Program Incidence and Outcome Data

IDA | . . . Far More PH Programs, Almost Half, Now Collecting Outcome Measures

- Overall, 60% of DHP PH programs reported having an evidence-based intervention in their efforts, and 23% reported having an outcome evaluation conducted in the past 12 months. 76% reported that they are collecting process data, 45% reported that they are currently collecting outcome data.
- A 2011 RAND study found that "of the resilience programs/studies reviewed, relatively few had conducted and published RCTs or quasi-experimental studies to show that their programs result in better outcomes. Further, when more rigorous scientific evidence is available to demonstrate the impact of the program, much of the evidence is based on studies of the program's use in nonmilitary populations." Some PH programs had requested formal evaluation, but needed support and funding. The Battlemind PH resilience program has conducted 5–6 randomized controlled trials.

Table 5.8
Number of Programs by Evidence Base, Evaluation, Data Collection, and Branch of Service

Branch of Service	Includes Evidence-Based Intervention	Outcome Evaluation Conducted in Past 12 Months	Type of Data Currently Collected by Program	
			Process Data	Outcome Data
DoD-wide	43	15	43	24
Army	40	19	50	40
Army Reserve	12	3	19	12
Army National Guard	17	4	31	18
Air Force	16	7	20	17
Air Force Reserve	5	2	7	4
Air National Guard	7	2	18	7
Navy	17	3	23	14
Navy Reserve	7	1	14	4
Marine Corps	17	7	23	15
Marine Corps Reserve	7	4	13	6

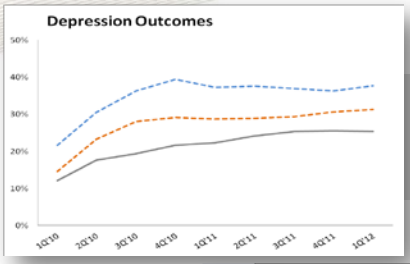
NOTE: Categories for branch of service are not mutually exclusive, and therefore numbers of programs cannot be summed across different branches of service. We identified a total of 211 programs. We exclude from this table two programs that themselves comprise more than one program included in this report, three additional programs run by the Coast Guard, and 24 programs for which no interview occurred and descriptions included in this report were prepared from publicly available information. Only programs that have conducted outcome evaluations within the past 12 months are included here; a small number of programs conducted evaluations at an earlier time period.

77

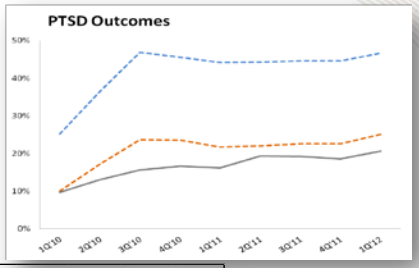
Sources: Weinick et al. 2011, 44; Meredith et al. 2011, 53.

Slide 77. Far More PH Programs Now Collecting Outcome Measures

New DOD PH Patient Systems and Attention to Outcomes Yielding Better Data Like This Tracking of PTSD and Depression Remission Rates



In the last 6 quarters, both PTSD and depression remission rates have increased.



Clinical Response 50% Reduction Remission

	Deression							PTSD						
	Total	Clinical Response	% Clinical Response	50% Reduction	% 50% Reduction	Remission	% Remission	Total	Clinical Response	% Clinical Response	50% Reduction	% 50% Reduction	Remission	% Remission
1Q'10	758	164	22%	111	15%	92	12%	652	164	25%	65	10%	63	10%
2Q'10	1,671	510	31%	390	23%	296	18%	1,454	530	36%	250	17%	189	13%
3Q'10	2,304	837	36%	646	28%	447	19%	1,961	920	47%	464	24%	307	16%
4Q'10	2,562	1,012	40%	748	29%	555	22%	2,192	1,000	46%	517	24%	364	17%
1Q'11	3,137	1,171	37%	900	29%	699	22%	2,689	1,187	44%	584	22%	436	16%
2Q'11	3,469	1,306	38%	1,005	29%	837	24%	3,033	1,342	44%	669	22%	587	19%
3Q'11	3,849	1,423	37%	1,132	29%	976	25%	3,281	1,462	45%	741	23%	632	19%
4Q'11	4,396	1,595	36%	1,350	31%	1,125	26%	3,770	1,681	45%	852	23%	699	19%
1Q'12	4,552	1,719	38%	1,424	31%	1,153	25%	3,900	1,821	47%	978	25%	807	21%

About the Measure

What are we measuring? We are measuring the Clinical Response rate, 50% Reduction rate and Remission rate. The denominator is the total RESPECT-MIL active caseload with 8 or more follow-up weeks who are being followed for depression or PTSD. (1) For the Clinical Response rate, the numerator is number of clinic RESPECT-Mil active caseload with 8 or more follow-up weeks who have achieved a minimum positive clinical response. (Minimum positive clinical response is defined as a PHQ-9 that has decreased 5 or more points for depression, and a PCL that has decreased 5 or more points since the baseline snapshot for PTSD.) (2) For the 50% Reduction rate, the numerator is number of clinic RESPECT-Mil active caseload with 8 or more follow-up weeks who have achieved at least a 50% PHQ-9 score reduction for depression, and a 50% PCL score reduction for PTSD since the baseline snapshot. (3) For the Remission rate, the numerator is number of clinic RESPECT-Mil active caseload with 8 or more follow-up weeks who have achieved a PHQ-9 score of 4 or less for depression, and PCL of 10 or less for PTSD. These three measures are not mutually exclusive.

Why is it important? This measure helps us to monitor the overall effectiveness of depression and PTSD treatments. This measure is also actionable at the care delivery level where if the patient demonstrates remission from symptoms, and there are no indication for further therapy, providers can appropriately plan for discontinuation of treatment. When patients demonstrate partial remission, providers can consider other treatment modification options.

What does our performance tell us? In the last 6 quarters, all three rates are increasing for both depression and PTSD.

Executive Sponsor: TBD

Working Group: TBD

Measure Advocate: TBD

Monitoring: TBD

Data Source: TBD

Other Reporting: None

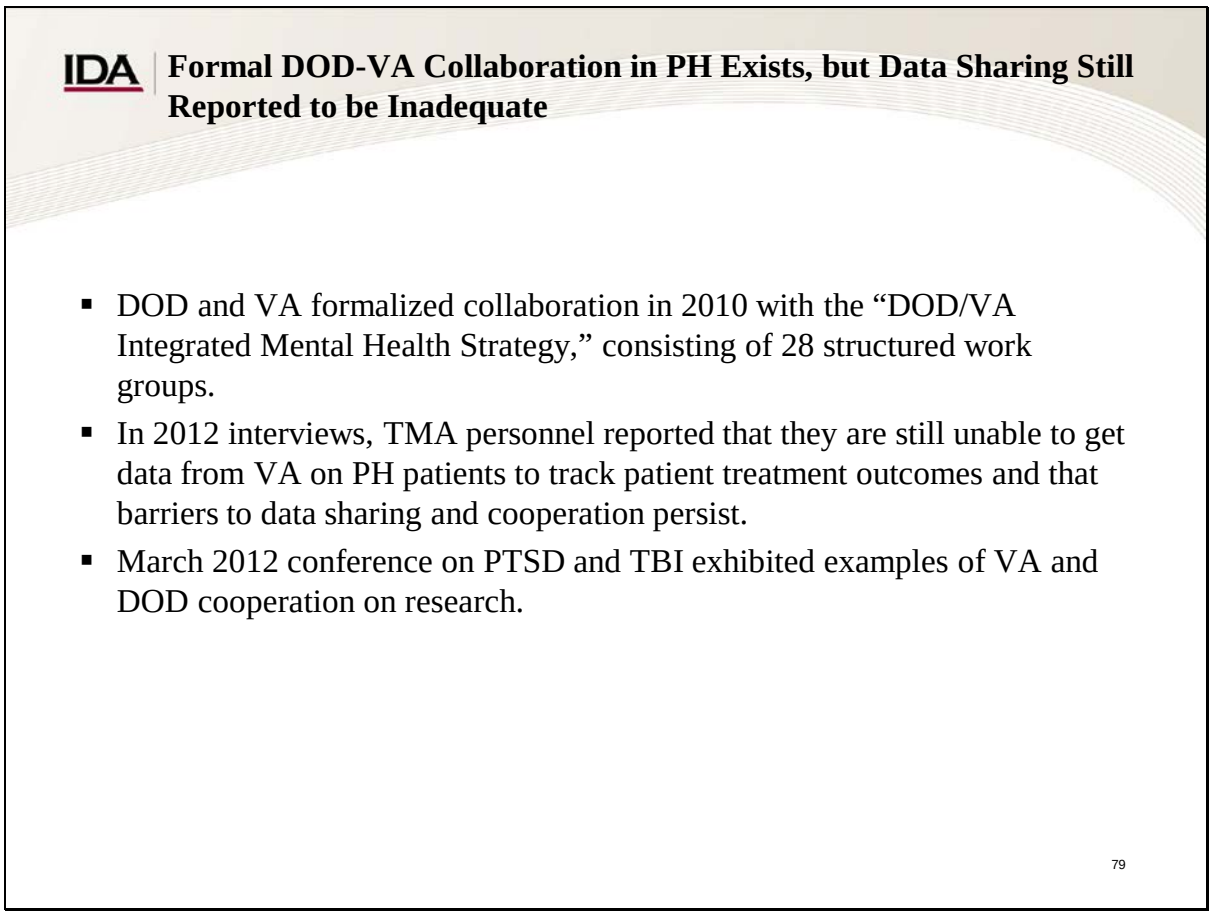
Status Thresholds:
- Green:
- Yellow:
- Red:

Targets:
- 2011:
- 2012:
- 2014:

78

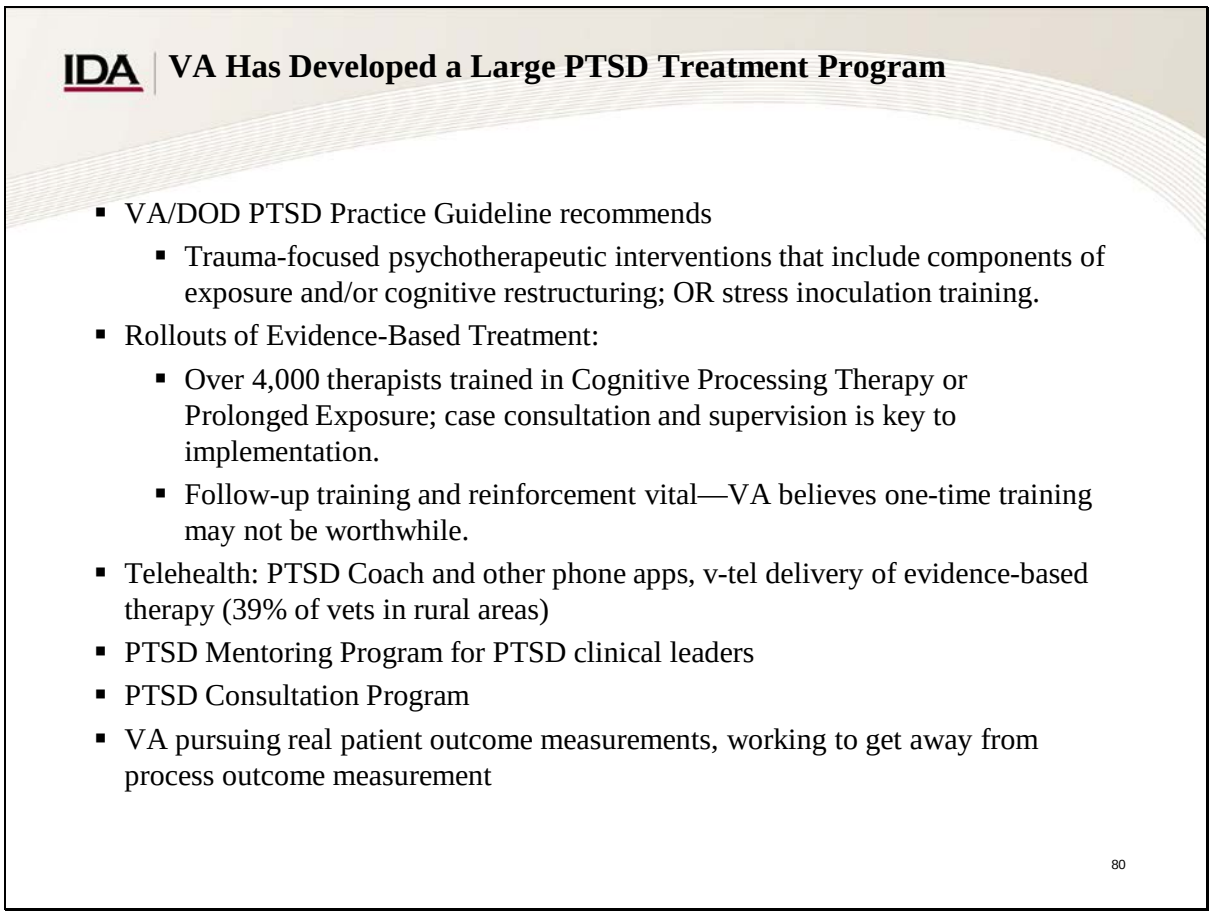
Source: Chuck Engel, TMA.

Slide 78. New DOD PH Patient Systems Yielding Better Data



Sources: IDA interviews; DOD Report to Congress 2011.

Slide 79. Formal DOD-VA Collaboration in PH Exists but Data Sharing Still Inadequate

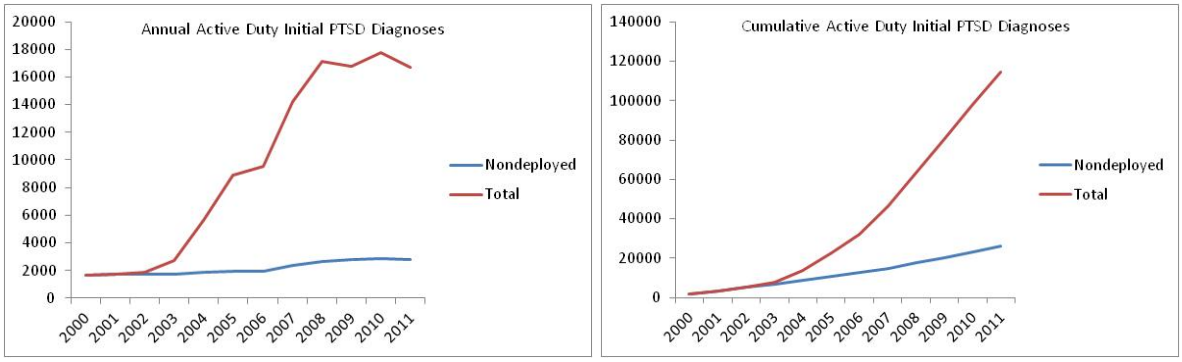


Source: Roberts and Schnurr 2012.

Slide 80. VA Has Developed a Large PTSD Treatment Program

The VA is Awarding More for PTSD Disabilities than DOD Has Diagnosed PTSD Cases . . .

2004–2011 Active Duty PTSD Cases*



During 2004–2011, 110,000 service members were diagnosed with PTSD. During the same period, 120,000 Gulf War veterans were added to the rolls of those receiving VA PTSD disability payments. The data available do not distinguish between veterans of Gulf Wars I and II.

* PTSD case defined as either two (2) outpatient encounters on different days with ICD9 diagnostic code (any position) of 309.81; OR inpatient encounter with ICD9 diagnostic code (any position) of 309.81.

81

Slide 81. VA is Awarding More for PTSD Disabilities

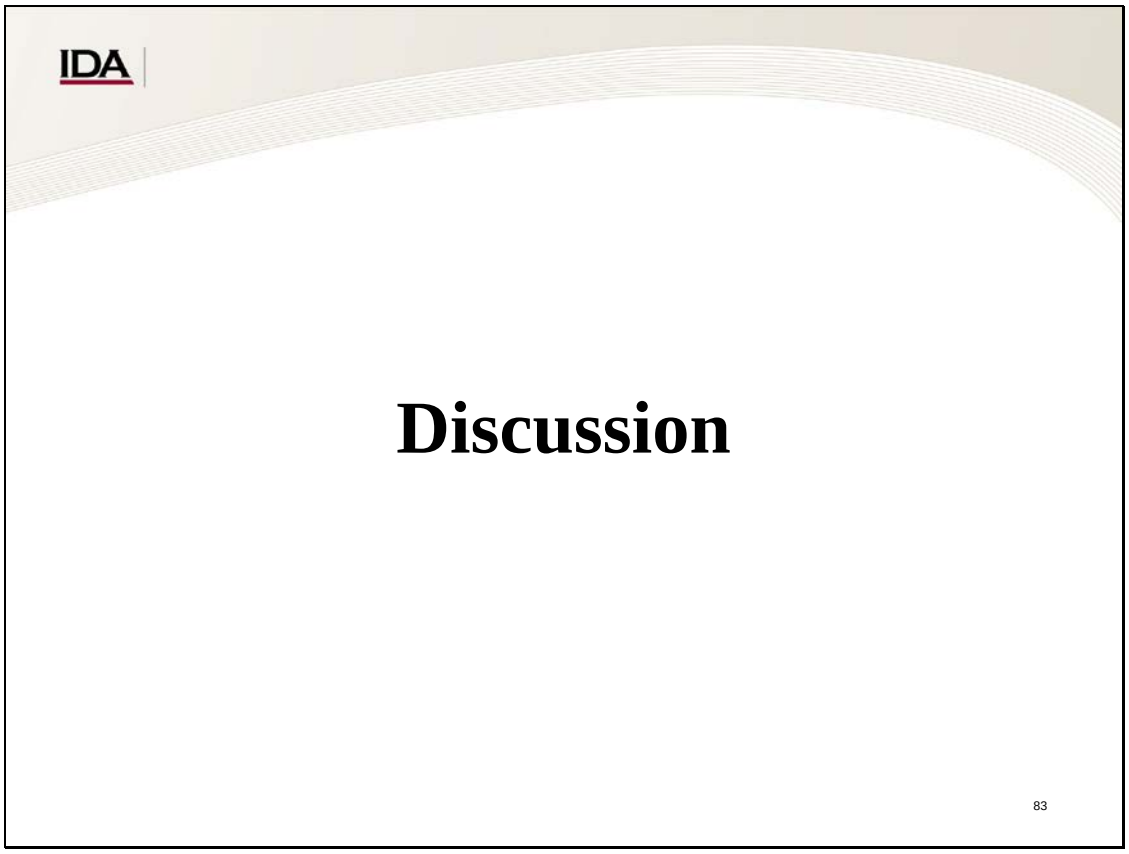
IDA . . . Data Suggest DOD PTSD Rates Much Higher than Diagnosed, PTSD Manifesting after Leaving Service, or a Great Deal of Fraudulent VA PTSD Disability Awards

- VA appears to be awarding three to five times as many PTSD disabilities as DOD diagnoses and TMA estimates of chronic PTSD rates suggest should occur.
- Reluctance to admit/report PTSD persists: DOD PTSD diagnoses may undercount actual incidence.
- PTSD often does not manifest until years after combat stress.
- There is a strong possibility that PTSD disability is awarded to some who do not really have chronic PTSD.

82

Slide 82. Data Suggests DOD PTSD Rates Much Higher Than Diagnosed

3. Discussion



Slide 83. Discussion

IDA | A Promising Initiative: Data Integration

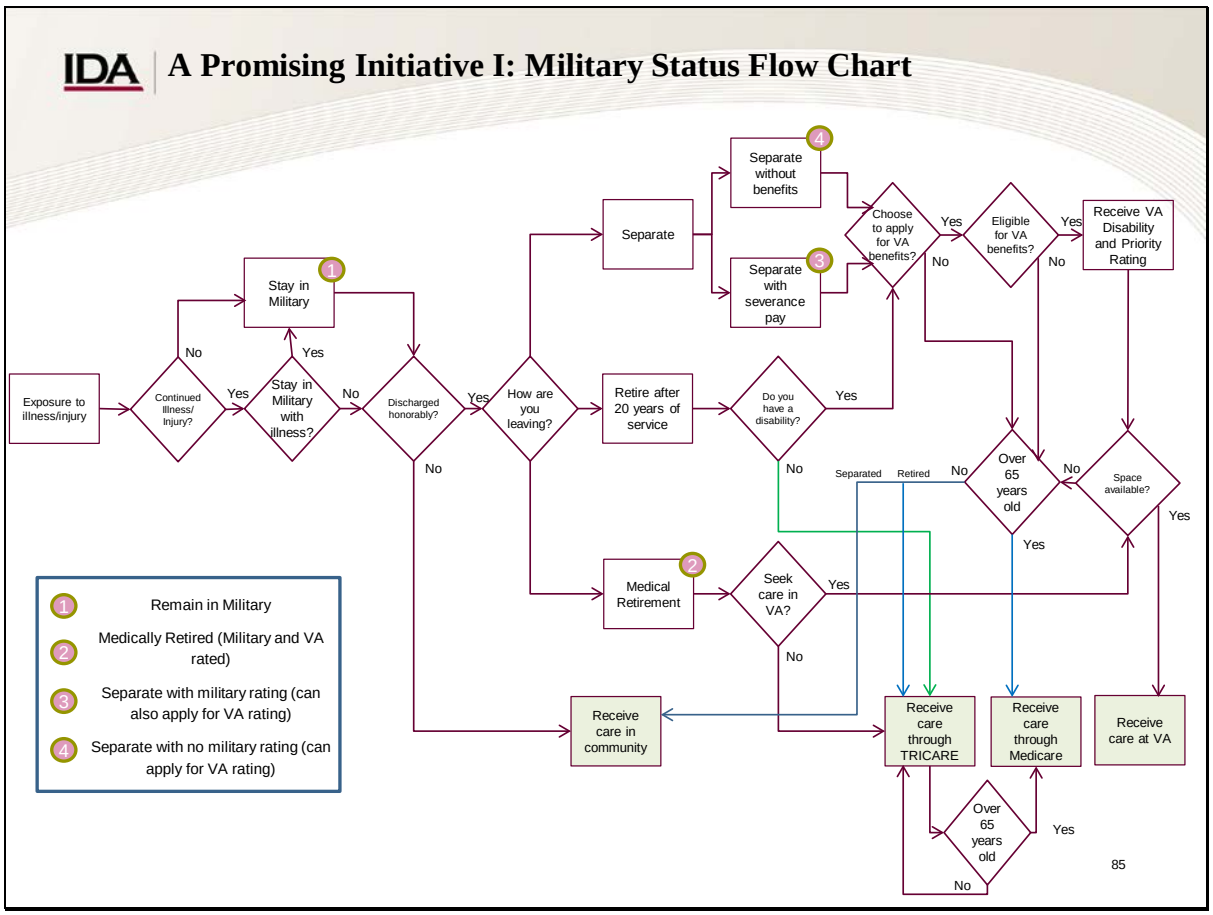
At the March 15th meeting the Strategic Planning Division of TMA offered the schematic representation of the military medical system and its integration with the military personnel system shown on the following slides.

Three points are worth noting:

1. The flow charts implicitly identify crucial points to collect data to support assessments of treatment efficacy and to improve coordination between DOD and the Veterans Administration.
2. The success of the medical system depends greatly on the quality of the data available regarding the medical and military histories of patients *before they enter it*. This is particularly true of patients seeking care for deployment-related health problems.
3. Neither class of data is adequate today. It will take major investments and years of effort to ensure that they are adequate in the future.

84

Slide 84. A Promising Initiative: Data Integration



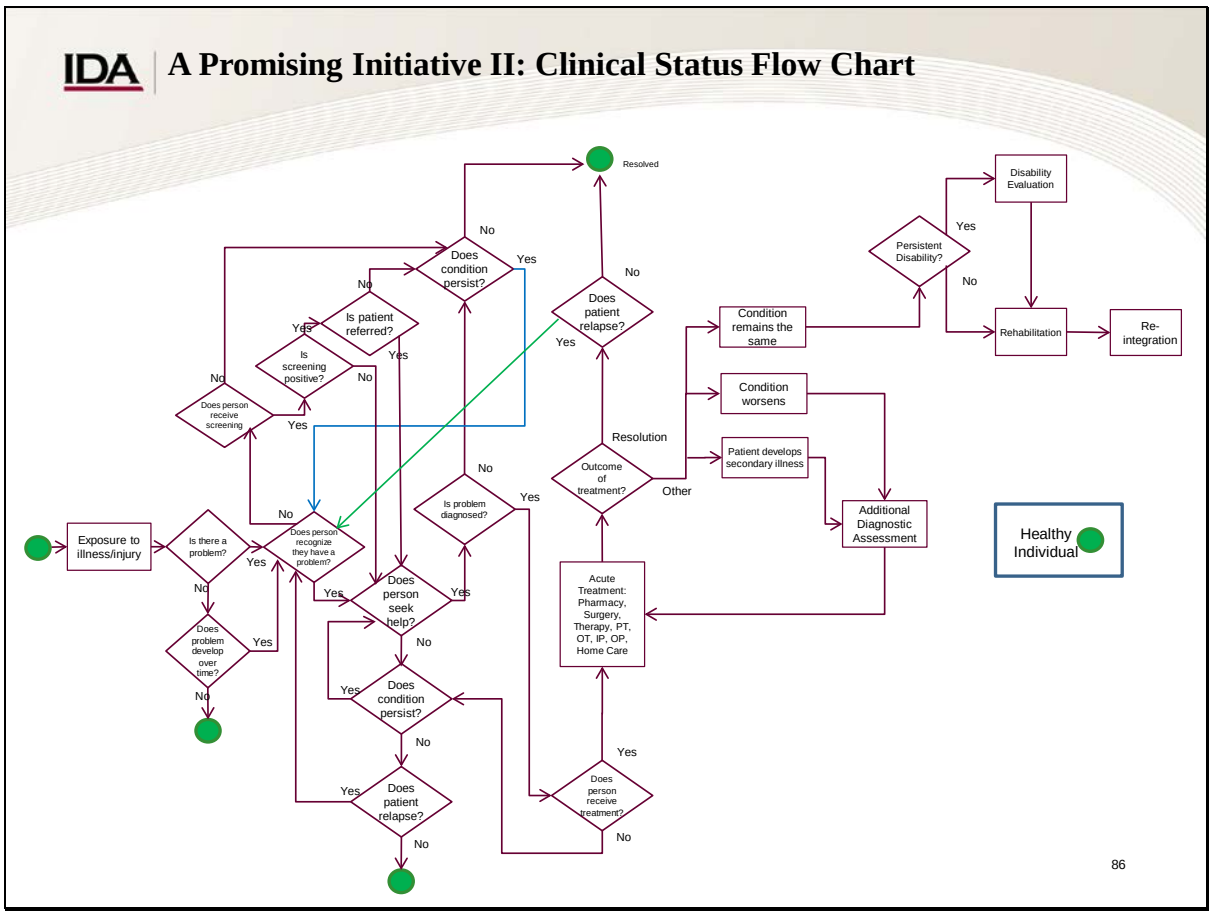
Slide 85. A Promising Initiative I: Military Status Flowchart

Slide 85 and its companion chart (slide 86) provide the first clear schematics of the processes that govern military and clinical outcomes. They imply demands for a data architecture to support improvements in their efficiency and efficacy, and for patient-specific data on entry and exit from the system. These implications can be illustrated by the example of PTSD:

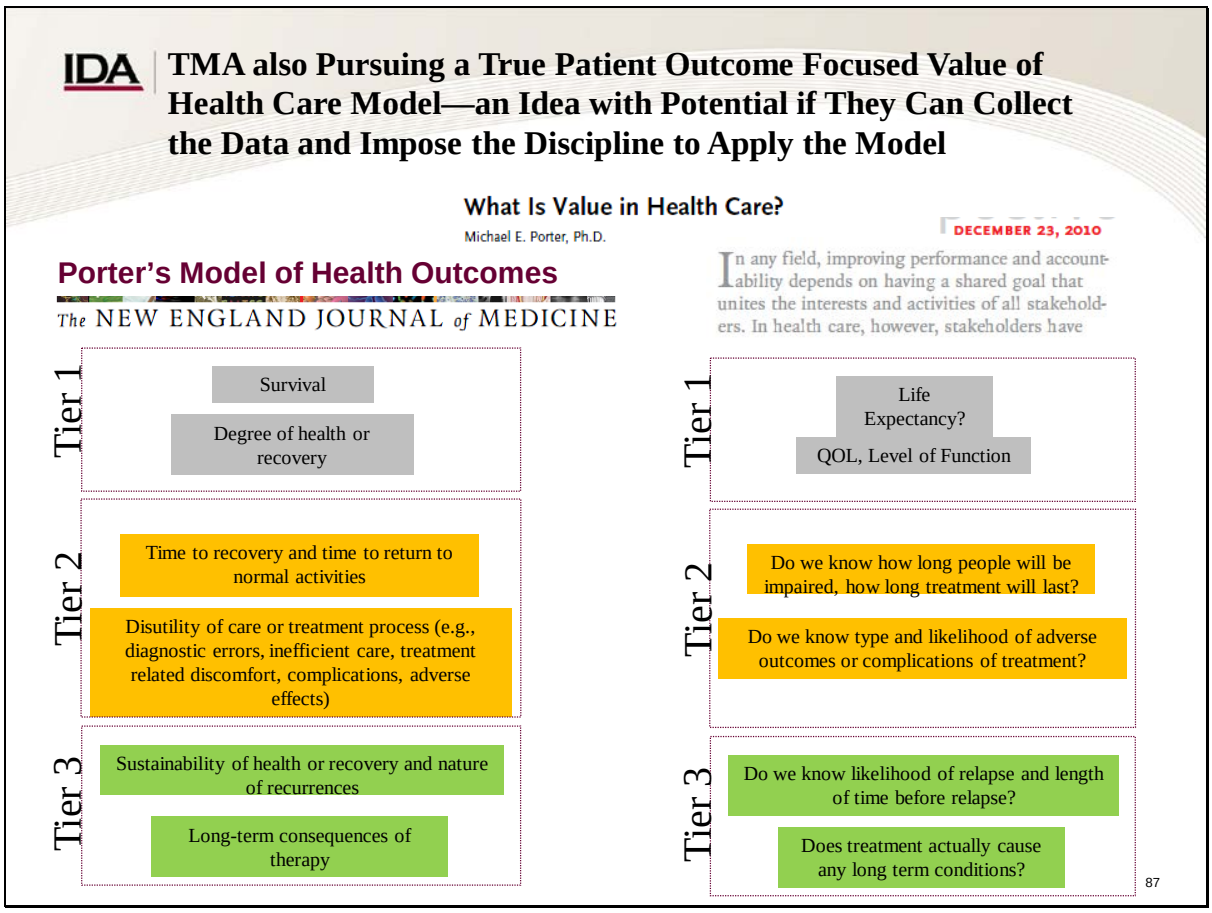
On entry to the system, any previous episodes of combat stress reaction or other psychological trauma must be known to support timely diagnosis and choice of treatment protocol.

The treatment protocols adopted and the subsequent transition probabilities at each decision node must be recorded to support assessments of treatment efficacy and predictions of outcomes.

The treatments and outcomes must be recorded in instances where the patient remains in military service (to support later DHP care) and transmitted to other institutions—such as the VA—in instances where the patient leaves the military service.



Slide 86. A Promising Initiative II: Clinical Status Flowchart



Slide 87. TMA Also Pursuing a True Patient Outcome Focused Value of Health Care Model

Discussion: II. Options (1 of 2)

1. To improve the identification and management of wartime medical demands
   - Refine and standardize the designs of systems that collect, consolidate, and analyze medical data during OCOs
   - Establish programs to implement the systems within each component and jointly
   - Establish formal organizational processes to review the products of the systems and to adjust DHP capabilities rapidly

2. To improve OCO planning
   - Refine and standardize PH casualty rates and care requirements factors
   - Refine and institutionalize staffing models
   - Develop OCO plans to augment PH capabilities rapidly in wartime

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Slide 88. Discussion: II Options (1 of 2)

IDA | Discussion: II. Options (2 of 2)

3. To improve the efficacy of PH treatment
   - Establish DHP-wide reporting requirements for protocol-specific treatment outcomes for each PH diagnosis
   - Dedicate resources to meeting these requirements
   - Develop and implement improvements through the mechanism described in number 1 on the previous slide

4. To increase the efficacy and efficiency of the DC System
   - Establish data systems to measure the probabilities at each major branch of the military and clinical flow charts shown in slides 85 and 86 respectively
   - Identify data needs on entry to the DC system, and refine frontline data systems to supply them
   - Identify data needed to support post-service care and refine DHP systems to provide them

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Slide 89. Discussion: II Options (2 of 2)

Appendix A
Illustrations

Slides

Appendix B
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Appendix C
Abbreviations

AC	Active Component
AD	Active Duty
BHSOC	Behavioral Health System of Care Campaign
BICEPS	Brevity, Immediacy, Centrality, Expectancy, Proximity, Simplicity
CAPE	Cost Assessment Program Evaluation (DOD)
CAPT	Captain (U.S. Navy)
CBT	Cognitive Behavioral Therapy
CDE	Command Directed Evaluation
CINC	Commander in Chief
COSC	Combat and Operational Stress Control
CPT	Cognitive Processing Therapy
DCOE	Defense Centers of Excellence
DHP	Defense Health Program
DOD	Department of Defense
DODD	Department of Defense Directive
DODI	Department of Defense Instruction
EMDR	Eye Movement Desensitization Reprocessing
FEA	Front End Assessment
FM	Field Manual
FOB	Forward Operating Base
GWOT	Global War on Terrorism
IAW	In Accordance With
IOM	Institute of Medicine
IT	Information Technology
JCMS	Joint Comprehensive Medical Surveillance
JMS	Joint Medical Surveillance
JOPES	Joint Operations Planning and Execution System
JPMPG	Joint Preventative Medicine Policy Group
JTF	Joint Task Force
MCFAS	Managed Care Forecasting Analysis System
MDD	Major Depressive Disorder
MILDEP	Military Department
MIT	Massachusetts Institute of Technology

MH	Mental Health
MHAT	Mental Health Advisory Team
MHS	Military Health System
MMS	Military Medical Surveillance
MOD	Ministry of Defence
MS	Medical Surveillance
MTF	Military Treatment Facility
NDAA	National Defense Authorization Act
NPS	Naval Postgraduate School
OCO	Overseas Contingency Operation
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
OSD	Office of the Secretary of Defense
PAR	Populations At Risk
PE	Program Element
PH	Psychological Health
PHP	Psychological Health Program
PHRAMS	Psychological Health Risk-Adjusted Model for Staffing
PHSO	Psychological Health Strategic Operations
PIE	Proximity, Immediacy, Expectancy
PTSD	Post-Traumatic Stress Disorder
RCT	Randomized Controlled Trial
RVU	Relative Value Unit
SIGACTS	Significant Activities
SM	Service Member
SUD	Substance Use Disorder
TBI	Traumatic Brain Injury
TMA	TRICARE Management Activity
UK	United Kingdom
UMT	Unit Ministry Team
US	United States
USA	U.S. Army
USG	United States Government
USMC	U.S. Marine Corps
VA	Veterans Administration
WWII	World War II

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13. SUPPLEMENTARY NOTES

14. ABSTRACT

This study focuses on psychological health (PH) care for active duty service members, including activated members of the Reserve Components.

The Defense Health Program (DHP) faces three challenges in resource allocation: predicting and managing peacetime demands; predicting and preparing to manage wartime demands; and recognizing and managing actual wartime demands. Predictions of wartime demands for PH care have been hindered by uncertainties regarding casualty rates and treatment requirements. After a decade of war in Iraq and Afghanistan, PH treatment demands have overtaxed the DHP. The growth in PH demand has been met predominately through direct care for active duty outpatient services and purchased care for other beneficiaries and active duty inpatient services.

Although the DHP information technology system doesn't currently support comprehensive PH data collection, Health Affairs' Office of Strategy Management has schematically defined the relationships between military status and health status in two flowcharts. The flowcharts implicitly identify crucial points for the collection of data to support assessments of treatment efficacy and to improve coordination between the Department of Defense (DOD) and the Veterans Administration (VA).

15. SUBJECT TERMS

Psychological health, Post-Traumatic Stress Disorder, Frontline treatment, Defense Health Program

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